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Shop Tips

MARCH-APRIL

1965

FROM FORD

VOL. 3, NO. 3

Technical parts and service information published by Ford Division to assist servicemen in Service Stations, Independent Garages and Fleets.



Two Way Radio H.E.L.P. for Motorists

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From Your Ford Dealer

Distributed By

BILL BOYER FORD
MPLS., MINN. FE. 2-7571

Representative

Be sure to file this and future bulletins for ready reference. If you have any suggestions for additional information that you would like to see included in this publication please write to: Ford Division of Ford Motor Company, Parts and Service Promotion and Training Dept., P.O. Box 658, Dearborn, Michigan, 48121.





THE H.E.L.P. PLAN FOR MOTORISTS

The growth of expressways and super-highways in the United States over the past several years has highlighted the growing need to provide a method of obtaining immediate aid to motorists who are victims of breakdowns or accidents. In conjunction with this need, the Automobile Manufacturers' Association has developed a Highway Emergency Locating Plan (H.E.L.P.) Program. The H.E.L.P. program will provide a source of quick aid to motorists in distress

through a nationwide communications network using two-way citizens' band, radio equipment.

In the event of trouble, motorists will be able to use two-way radios in their cars to make their needs known on a civilian-band emergency channel monitored on a 24-hour around-the-clock basis by police agencies, auto dealers, service stations, hospitals and volunteer citizens groups.

WHAT H.E.L.P. CAN MEAN TO YOU

For the service station, specialty shop, or independent garage, H.E.L.P. can mean added opportunity to increase service business by aiding customers in need. By monitoring the H.E.L.P. Emergency Channel, you can provide towing or other emergency services to stranded motorists. This two-way communication system can also help you to speed up your own operation—pickups and deliveries and service calls. Service Stations and garages should take advantage of the H.E.L.P. plan by equipping their service shop with these transceiver units. It could pay big dividends.

In conjunction with this program, Ford Dealers have available an entirely new two-way citizens' band radio, the RAY-TEL TWR-5. A hand-held, all transistorized, portable unit, TWR-6, is also offered.

The Ford RAY-TEL TWR-5, all transistor, two-way radio can both transmit and receive messages and can be installed in the glove compartment of many cars. It also comes with a universal mounting bracket for easy installation under instrument panel or suspended overhead. The effectiveness of equipment will vary depending on the type of terrain, other operation conditions and interference. A range up to 20 miles

can be anticipated. In a metropolitan area, where monitoring units might be closely placed, the range might be reduced to five miles or less. In open country, where the terrain is relatively level, the range may be extended up to 40 miles. In a car to car situation, where both vehicles are moving, the range would be affected by both speed and direction of the vehicles.

Shown below are the main components of the TWR-5 & 6 systems and their associated Ford part numbers. All components and accessories are available through your local Ford dealers' parts department.

DESCRIPTION	FORD PART NUMBER
TWR-5 CB Transmitter-Receiver Kit 5W-12V DC	C5AZ-18805-E
117 Volt AC Power Supply	C5AZ-18800-A
Tone Signaling Device (min. of two required)	C5AZ-18801-A
TWR-6 CB Transmitter-Receiver Kit (Hand Held) 2W All Transistorized	C5AZ-18805-F
Battery Charger	C5AZ-18802-A
Carrying Case (TWR-6)	C5AZ-18809-A
Batteries (TWR-6)	C5AZ-18811-A

DESCRIPTION	FORD PART NUMBER
Base Station Antenna with 50 ft. cable & installation kit	C5AZ-18813-D
Mobile Trunk Mount Antenna 3'6" Base Loaded, Stainless	C5AZ-18813-E
Mobile Roof Mount Antenna 3'6" Spring Base Loaded, Stainless	C5AZ-18813-F
Mobile Trunk Mount Antenna (top loaded—Fiberglass)	C5AZ-18813-G
Matched Crystals (Channel 1-23)	C5AZ-18A986 A-H J-N P-Y

HOW TO INSTALL THE RAY-TEL UNITS



MOBILE OR MARINE INSTALLATION . . . Select a mounting location which is in convenient reach of the driver or operator. A mounting yoke is furnished for under-dash mounting for automobile or overhead for trucks or cowl mounting for marine application.

The radio is designed to operate on a 12-volt DC negative ground source. Connect the red wire to the positive (hot) and the black wire to the negative (ground). For operation from a positive ground system see the schematic that accompanies each set for the changes required. If it is necessary to extend the power cable, it is recommended that a size 14 cable or larger be used to minimize voltage loss.

BASE STATION INSTALLATION . . . Although the radio is basically designed to operate from a 12-volt DC source (mobile), it can be readily adapted for use as a base station, operating from 115/120 volts AC 50-60 cycles merely by the addition of the accessory power supply.

When operating from a 115/120 volt AC source, the radio must be connected to a good electrical ground, such as a water pipe or a length of rod driven several feet into the earth. Pin 3 of the octal power connector provides a convenient point for this ground connection.

ANTENNA INSTALLATION . . . The radio must be connected to a good antenna system as the results obtained will depend largely on the antenna installation. For base station installations, the antenna should be a ground plane or coaxial feed dipole mounted as high as possible (within the limit set by FCC regulations) and clear of surrounding objects such as build-

ings, power lines, trees, etc. The antenna support must be connected to a good ground to provide a discharge path for static charges, especially in areas where electrical storms may occur. The connection may be made to the same ground as used for the radio.

Mobile antennas are available in a variety of models. The type selected usually depends on the mounting location and available space.

If you wish to install your own antenna, be sure to read Part 95 of the FCC Rules and Regulations pertaining to antenna installations for Class D citizens' band use. It must be emphasized that the better the antenna installation, the greater will be the area of coverage.

It is necessary to properly tune the transceiver to the antenna. Tuning should be accomplished by a qualified Radio Technician. When the transceiver is used as a base station, the antenna support must be connected to a good electrical ground. This will provide a path for static discharge picked up by the antenna so that it will go directly to ground rather than through the equipment. Also this provides that the unit be grounded through the connecting coaxial cable thereby providing protection against possible electrical shock.

An improperly resonated or poorly planned antenna installation could result in a severe loss in power ($\frac{1}{2}$ or more) and consequent reduction in communications range.

The transmitter section of the RAY-TEL units available from Ford Dealers has been factory adjusted and tuned for the maximum legal power input of 5 watts with a properly resonated antenna system.

RAY-TEL TWR-5 GENERAL SPECIFICATIONS

GENERAL:

Channels	Any 11 of the 23 channels available
Width	8 $\frac{1}{4}$ "
Height	3 $\frac{3}{16}$ "
Depth	10 $\frac{1}{4}$ "
Weight	6 $\frac{1}{2}$ lbs.

RECEIVER:

Frequency coverage	26.965—27.255 mc/s
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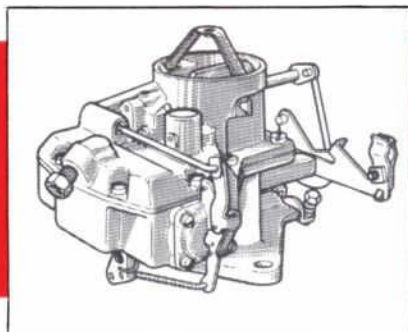
TRANSMITTER:

Frequency coverage	26.965—27.255 mc/s
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LICENSING

Use of CB equipment, both mobile and fixed, is controlled by the Federal Communications Commission. No operators license or examination is required. A station license, valid for five years, may be applied

for from the FCC when equipment is ordered. Applications are included with the RAY-TEL units or available in radio supply stores and licenses are open to any U.S. citizen over the age of 18 years.



SERVICING THE FORD SINGLE BARREL CARBURETOR

The Ford single-barrel carburetor used on all Ford 6-cylinder engines consists of two main assemblies; the upper body assembly and the lower body assembly.

The upper body assembly contains the major metering components of the carburetor. The main and idle fuel power valve, float chamber vent and fuel inlet systems are all part of this assembly.

The lower body assembly contains the fuel bowl, accelerating pump assembly, idle mixture adjusting screw and spark valve. A hydraulic dashpot assembly is

also included on units with an automatic transmission.

This article will treat the most common complaints usually associated with single barrel carburetor operation and will outline suggested servicing procedures and adjustments.

Since some carburetor adjustments are inter-related, adjustments must be performed in a definite sequence. This logical order has been established to avoid the necessity of repeating the same adjustment and also to help insure a properly adjusted carburetor.

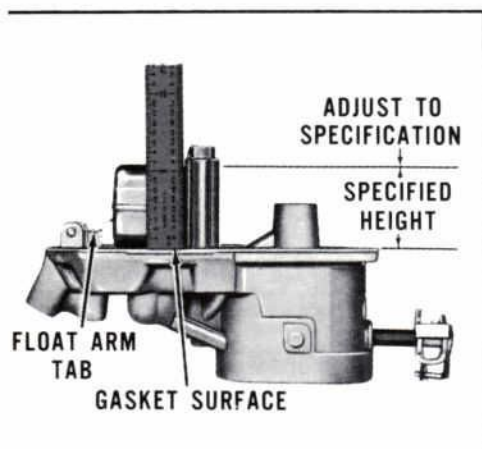
CARBURETOR TROUBLE SHOOTING GUIDE

Proper Sequence of Adjustments	Float Adjustment for Fuel Level	Accelerator Pump Stroke	Vent Valve Position	Anti-Stall Dashpot	Fast Idle and Manual or Auto. Choke Plate Clearance Adj.	Idle Mixture	Idle Speed
FLOODING OR LEAKING CARBURETOR	X	X	X				
HARD, SLOW, OR NO START	X				X	X	
POOR IDLE	X	X	X	X		X	X
POOR ACCELERATION OR STALLING	X	X	X	X	X	X	X
POOR FUEL ECONOMY (CARBURETOR RUNNING RICH)	X	X	X		X	X	
ENGINE SURGING (CARBURETOR RUNNING LEAN)	X	X	X			X	

ADJUSTMENTS

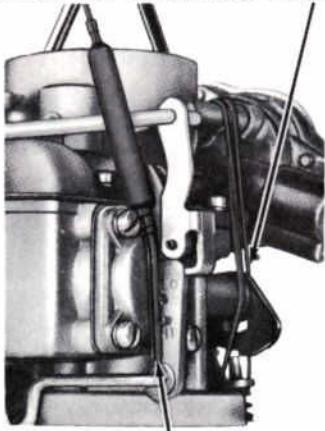
FLOAT ADJUSTMENT FOR FUEL LEVEL

This adjustment is made to cover the following complaints: *carburetor flooding or leaking, hard starting, poor idle, poor acceleration, poor fuel economy, and engine surging.*



1. Disconnect the vent-valve rod from the lever and the choke rod from the choke shaft. Remove the eight upper-to-lower-body screws and separate the upper and lower bodies.
2. With the carburetor upper body and mounting gasket removed from the carburetor assembly, turn the upper body upside down. The carburetor may be equipped with either a plastic or metal float. Adjustment methods are the same but specifications vary between the two.
3. Measure the distance from the gasket surface of the upper body to the crown (extreme top) of the float. If the float adjustment is not within the specified dimension, bend the float arm tab as necessary to obtain the specified dimension. Do not apply pressure on the fuel inlet needle. The viton tip of the needle may be damaged through undue pressure exerted on it and thus cause an improper fuel level within the bowl.

RUBBER BAND HOLDING
THROTTLE IN CLOSED POSITION



PROPER SIZE GAUGE
BETWEEN COVER AND PIN

ACCELERATING PUMP STROKE

This adjustment is made to cover the following complaints: *carburetor flooding or leaking, poor idle, poor acceleration, poor fuel economy, and engine surging.*

1. Insert the roll pin in the lower hole (HI) position in the pump lever lower stop hole.
2. Position the throttle and choke linkage so that the throttle plate will seat in the throttle bore. Hold the throttle plate in the closed position.

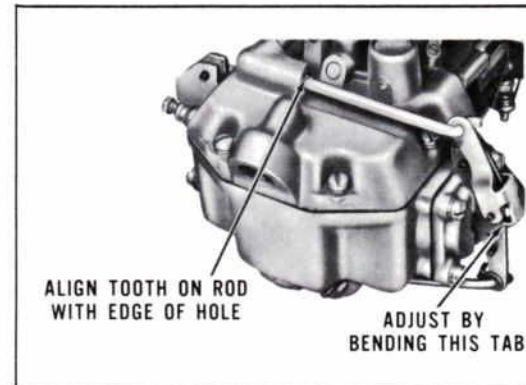
Position a gauge or drill, of the specified thickness, between the roll pin and the cover surface. Bend the accelerating pump actuating rod to obtain the specified gauge or drill clearance between the pump cover and the roll pin

in the pump lever. Acceleration requirements in various climates are satisfied by controlling the amount of fuel discharged by the accelerating pump. The pump stroke is controlled by changing the location of the roll pin in the lever stop hole. For operation in temperatures of 50° F. and below, place the roll pin in the hole of the pump operating lever marked "HI" (Lower hole). For best performance, and economy at normal temperatures and high altitude (above 50° F. and/or above 5,000 feet altitude), place the roll pin in the "LO" (upper) hole of the lever.

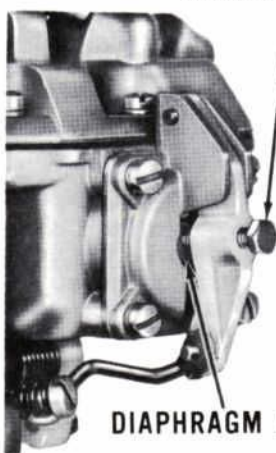
VENT VALVE POSITION

This adjustment is made to cover the following complaints: *carburetor flooding or leaking, poor idle, poor acceleration, poor fuel economy, and engine surging.*

Set the throttle linkage to the hot-idle position. The groove or tooth on the vent-valve rod should now be even with the open end of the vent-valve rod bore as shown. Bend the arm on the vent-valve rod actuating lever (where it contacts the accelerating pump lever) to align the groove or tooth with the edge of the bore.



DASHPOT
ADJUSTING NUT



DIAPHRAGM BUTTON

ANTI-STALL DASHPOT

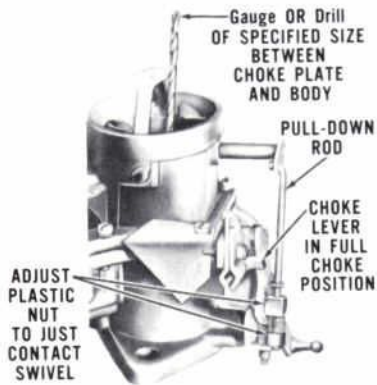
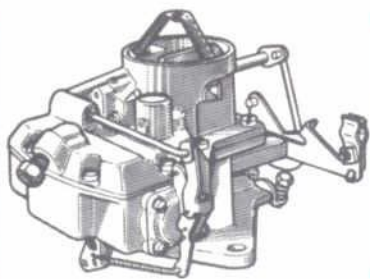
This adjustment is made to cover the following complaints: *poor idle and poor acceleration.*

Adjust the throttle position to the hot-idle setting. Turn the dashpot adjusting nut outward until it is clear of the dashpot plunger assembly.

Turn the dashpot adjusting nut inward until it initially contacts the dashpot plunger assembly; then, turn the adjusting nut inward (clockwise) the specified number of turns against the dashpot diaphragm plunger assembly. See specifications on page 9.

SERVICING THE FORD SINGLE BARREL CARBURETOR

(CONTINUED)



MANUAL CHOKE ADJUSTMENT—170-200 CID Engine

This adjustment is made to cover the complaints of *hard starting, poor acceleration, and poor fuel economy.*

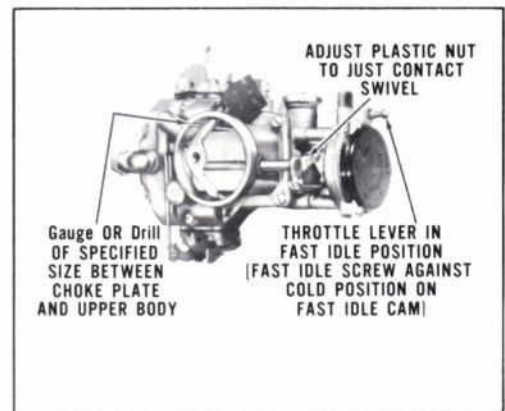
Place the choke linkage in the full choke position. Insert a drill or a gauge of the specified size between the choke plate and the inside of the air horn. Maintaining the full choke position, adjust the choke pulldown nut to just contact the swivel on the cam lever.

AUTOMATIC CHOKE PULLDOWN ADJUSTMENT 170-200 CID Engine

This adjustment is made to cover the complaints of *hard starting, poor acceleration, and poor fuel economy.*

The fast idle adjustment must be set before performing the choke pulldown adjustment because the position of the pulldown rod is one of the determining factors affecting the throttle to choke opening relationship.

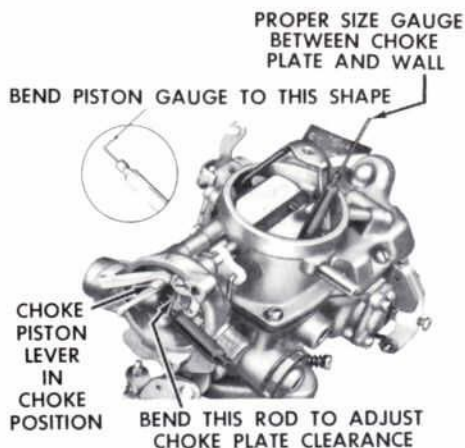
Place a drill or gauge, of the specified size, between the choke plate and the upper body bore wall. Close the choke plate to the drill or gauge. Close the throttle until the fast idle screw is on the fast idle cam. Adjust the plastic nut to just contact the swivel on the choke lever assembly.



AUTOMATIC CHOKE PULLDOWN AND FAST IDLE CAM LINKAGE ADJUSTMENT—240 CID Engine

This adjustment is made to cover the following complaints:
hard starting, poor acceleration, and poor fuel economy.

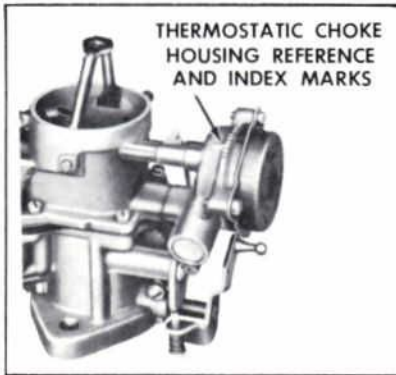
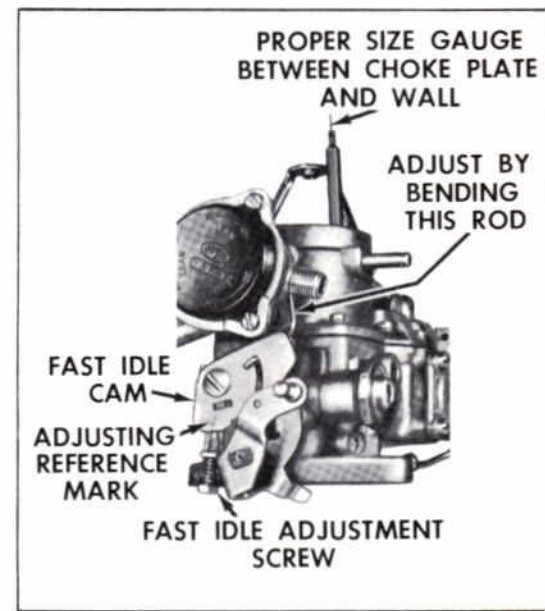
1. Bend a specified size wire gauge at a 90° angle, approximately 1/8 inch from its end.
2. Block the throttle about half-open so that the fast idle cam does not contact the fast idle adjustment screw.
3. Insert the bent end of the gauge between the lower edge of the piston slot and the upper edge of the right hand slot in the choke housing and pull the choke piston lever counterclockwise until the gauge is snug in the piston slot. Hold the wire gauge in place by exerting light pressure on the choke piston lever. Gradually bend the rod (link) between the choke piston and piston lever until the choke plate opens just wide enough to allow a gauge or drill of the specified clearance to fit between the front of the choke plate and the air horn.
4. Install the choke thermostatic spring housing and gasket on the choke housing. Install the spring housing retaining clamp and screws.



FAST IDLE CAM LINKAGE ADJUSTMENT

This adjustment is made to cover the following complaints: *hard starting, poor acceleration, and poor fuel economy.*

1. Loosen the retaining screws and rotate the thermostatic spring housing counterclockwise (rich direction) to align the center index mark on the choke housing with the index mark on the spring housing; then, rotate the spring housing an additional 90° counterclockwise.
2. Position the fast idle adjustment screw on the index mark of the fast idle cam.
3. Adjust the fast idle cam linkage to specification by bending the choke control rod to provide the specified clearance between the front of choke plate and the air horn. Bend the choke control rod inward to decrease the clearance or outward to increase the clearance. Make certain the fast idle screw remains on the index mark (kickdown step) of the fast idle cam during the adjustment procedure.
4. Set the thermostatic choke housing to the specified index mark.
5. If the automatic choke plate clearance (pull-down) and fast idle cam linkage adjustment was performed with the carburetor on the vehicle, adjust the engine idle (hot engine) speed and fuel mixture, fast (cold engine) idle speed and the dashpot (if so equipped) by following the steps in this section.



AUTOMATIC CHOKE THERMOSTATIC SPRING HOUSING ADJUSTMENT

This adjustment is made to cover the following complaints: *hard starting, poor acceleration, and poor fuel economy.*

1. Remove the carburetor air cleaner assembly, if it has not been previously removed.
2. Loosen the thermostatic spring housing clamp retaining screws. Set the spring housing to the specified index mark and tighten the clamp retaining screws. If other carburetor adjustments are not required, install the carburetor air cleaner assembly.

IDLE FUEL MIXTURE AND IDLE SPEED ADJUSTMENTS

This adjustment is made to cover the following complaints: *hard starting, poor idle, poor acceleration, poor fuel economy, and engine surging.*

The engine idle speed is adjusted to settings for a hot engine and cold engine (fast idle speed). Make the idle and fuel mixture adjustments in the sequence listed.

PRELIMINARY IDLE MIXTURE SETTING

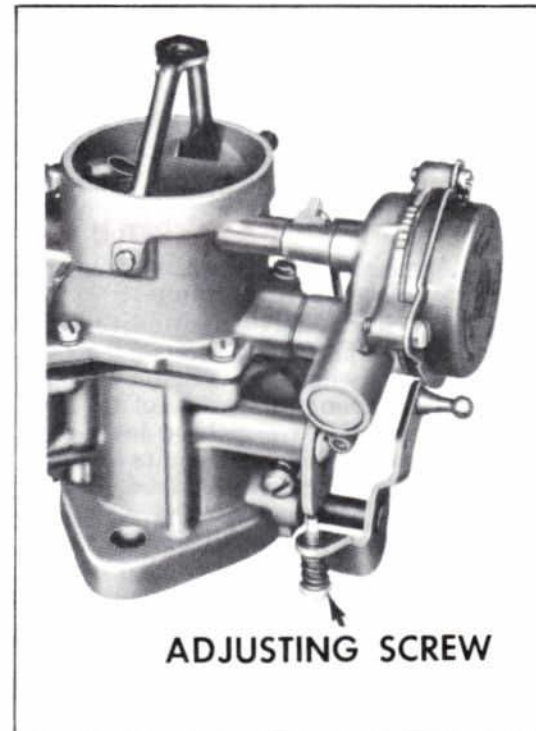
Set the preliminary idle mixture by turning the idle mixture screw inward (clockwise) until it is lightly seated, then turn the screw outward (counterclockwise) one to one and a half turns. Do not turn the screw needle tightly against its seat as this may groove the end. If the needle is damaged, it must be replaced before a satisfactory fuel mixture can be obtained.

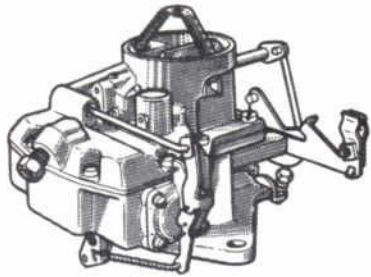
PRELIMINARY IDLE ADJUSTMENT

A stop screw on the throttle lever inner flange contacts the carburetor lower body or the fast idle cam, and controls the idle (hot engine) speed. Turn the screw inward (clockwise) to increase engine idle speed and outward (counterclockwise) to decrease the engine idle speed.

Position the choke mechanism so that the choke plate is fully open. Seat the throttle plate in the throttle bore. It may be necessary to back off on the dashpot (if so equipped) adjustment screw to seat the throttle plate in the throttle bore. Set the idle adjusting screw to just make contact with the stop on the lower body, or the fast idle cam, then turn the screw inward (clockwise) an additional turn.

The "Final Idle" (Hot Engine) and Fuel Mixture Adjustments" provide the specified rpm required.





SERVICING THE FORD SINGLE BARREL CARBURETOR

(CONTINUED)

FINAL IDLE (HOT ENGINE) SPEED AND MIXTURE ADJUSTMENT

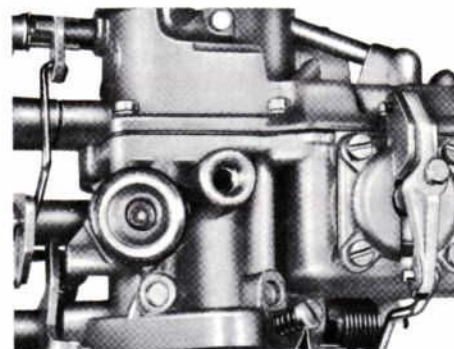
1. Place the transmission selector lever in neutral position and set the parking brake.
2. Operate the engine for 30 minutes at approximately 1200 rpm to stabilize engine temperatures. On a car with an air conditioner, operate the air conditioner for 20 minutes before setting the engine idle speed. The engine idle speed is adjusted with the air conditioner operating.
3. Turn on the headlights. It is necessary to place the alternator under a load condition in this manner in order to obtain the specified idle speed during the adjustment procedure.
4. On a car with an automatic transmission, the engine idle speed and mixture is checked and adjusted with the automatic transmission selector lever in drive range position. Be sure the parking brake is on. On a Thunderbird, it is necessary to apply and hold the brake pedal down during this adjustment, or apply the parking brake then disconnect the vacuum hose at the brake reservoir. Plug the vacuum opening when not being used.
5. Attach a tachometer to the engine.
6. Turn the idle (hot engine) speed adjustment screw in a direction to obtain the specified engine rpm. Position the transmission selector lever in neutral, and open the throttle by hand and allow it to close normally.
7. On a car with an automatic transmission, position the transmission selector lever in drive range.
8. Turn the idle fuel mixture adjustment screw inward until the engine rpm begins to drop from the lean mixture. Turn the needle outward until the engine rpm increases and just begins to drop again due to the rich mixture; then, turn the screw inward for maximum engine rpm and smoothness. Always favor a rich mixture rather than a lean mixture.
9. Check the engine idle (hot engine) speed and adjust it to specifications, if necessary. Final engine idle speed may be varied to suit the conditions under which the car is to be operated.
10. Adjust the fast (cold engine) idle speed to specification.

FAST (COLD ENGINE) IDLE SPEED

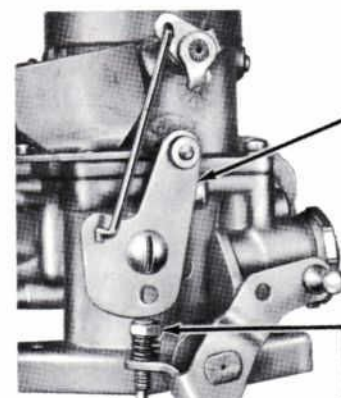
Always make certain the idle (hot engine) speed is adjusted to specification before attempting to set the fast idle speed.

The fast (cold engine) adjustment screw contacts one edge of the fast idle cam. The cam permits a faster engine idle speed for smoother running when the engine is cold during choke operation. As the choke plate is moved through its range of travel from the closed to the open position, the fast idle cam pick-up lever rotates the fast idle cam. Each position on the fast idle cam permits a slower idle rpm as the engine temperature rises and choking is reduced.

1. Manually rotate the fast idle cam until the fast idle adjusting screw rests adjacent to the shoulder of the highest step (screw aligned with arrow mark) on the cam.
2. Start the engine, and turn the fast idle adjusting screw inward or outward as required to obtain the specified fast idle rpm.
3. Place the transmission selector lever in neutral and turn off the engine. Switch off the headlights and the air conditioner (if so equipped).
4. If the car is equipped with an automatic transmission, check the anti-stall dashpot for proper adjustment.



IDLE MIXTURE
ADJUSTING SCREW



CHOKE AND FAST
IDLE CAM LEVER

IDLE AND FAST
IDLE ADJUSTING
SCREW

FORD I-V CARBURETOR SPECIFICATIONS

THROTTLE BORE DIAMETER—Inches	
All Carburetors.....	1 $\frac{1}{16}$
VENTURI DIAMETER—Inches	
C4ZF-A, B, J and K.....	1.100
C5DF-E, F, G and H.....	1.100
C50F-E, F, N, R and S.....	1.200
C50F-H.....	1.100
MAIN METERING JET IDENTIFICATION NUMBER	
0-5000 Feet	
C4ZF-J and A.....	60F
C4ZF-K and B.....	59F
C5DF-E.....	64F
C5DF-F.....	62F
C5DF-G.....	63F
C5DF-H.....	61F
C50F-E.....	69F
C50F-F and R.....	67F
C50F-H and S.....	62F
C50F-N.....	68F
5,000-10,000 Feet	
C4ZF-A.....	58F
C4ZF-B.....	57F
C4ZF-J.....	60F
C4ZF-K.....	59F
C5DF-E.....	62F
C5DF-F.....	60F
C5DF-G.....	61F
C5DF-H.....	59F
C50F-E.....	67F
C50F-F and R.....	65F
C50F-H and S.....	60F
C50F-N.....	66F
SPARK CONTROL VALVE IDENTIFICATION—Color... Plain	
FAST IDLE CAM LINKAGE SETTING (CLEARANCE)—Inches	
All Carburetors.....	0.020 #76 Drill
Gauge thickness between throttle plate and side of throttle bore with throttle plate and choke plate closed. Turn fast idle adjustment screw inward until it just contacts the fast idle cam.	
CHOKE PLATE PULLDOWN CLEARANCE—Inches	
C4ZF-A, B, J and K.....	0.140
C5DF-E and G.....	0.100-0.120
C5DF-F and H.....	0.140-0.160
C50F-E, H and N.....	0.130-0.150
C50F-F.....	0.140-0.150
C50F-R.....	0.140-0.160
C50F-S.....	0.160-0.300
ACCELERATOR PUMP	
Accelerator Pump Clearance Adjustment	
$\frac{3}{16}$ inch from pump cover surface to pin in "HI" position (throttle plate seated in throttle bore).	
Accelerator Pump Lever Adjustment—Temperature and Altitude	
Pin in "HI" Position.....	50°F and below
Pin in "LO" Position.....	50°F and above, and above 5,000 feet altitude

FLOAT SETTING DRY—Inches	
All Carburetors	
Rubber Float.....	1 \pm $\frac{1}{32}$
Metal Float.....	1 $\frac{1}{32}$ \pm $\frac{1}{32}$
Distance from gasket surface of upper body to the top of float (body inverted).	
ANTI-STALL DASHPOT	
All Carburetors.....	3 $\frac{1}{4}$ -3 $\frac{3}{4}$
Turns in after the initial contact of the adjusting screw with the diaphragm	
CHOKE THERMOSTATIC SPRING HOUSING	
Spring Identification	
C4ZF-A, B, J and K.....	TM
C5DF-E and F.....	TM
C5DF-G.....	TS
C5DF-H.....	TP
C50F-E, F and R.....	TP
C50F-H and N.....	TS
Housing Initial Setting—Set At:	
C4ZF-A, B, J and K.....	Index
C50F-E and G.....	Two digits lean
C5DF-F and H.....	Index
C50F-E and H.....	One digit lean
C50F-F.....	Index
DECHOKE CLEARANCE—Inches	
Minimum between choke plate and air horn with throttle plate in wide open position..... $\frac{1}{4}$	
FAST (COLD ENGINE) IDLE ADJUSTMENT—Engine rpm	
C4ZF-A and J.....	1300
C4ZF-B and K.....	1500
C5DF-E and G.....	1300
C5DF-F and H.....	1500
C50F-E, H, N and S.....	1300
C50F-F and R.....	1500
PRELIMINARY IDLE FUEL MIXTURE ADJUSTMENT	
All Carburetors.....	1 $\frac{1}{2}$ turns open
Turns back from bottomed needle.	
PRELIMINARY IDLE ADJUSTMENT—All Carburetors	
Set the idle adjusting screw to just make contact with the stop on lower body, then turn the screw inward (clockwise) an additional turn.	
Throttle Plate seated in throttle bore.	
IDLE (HOT ENGINE) SPEED ADJUSTMENT	
All Carburetors.....	500-525

1965 FORD WINDSHIELD

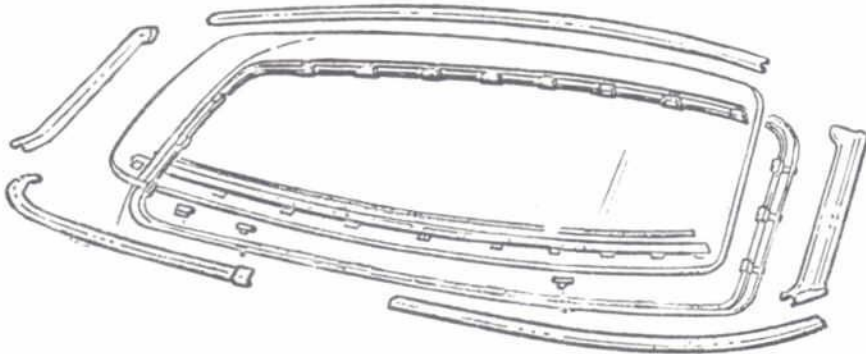


Figure 1—Windshield glass and related parts

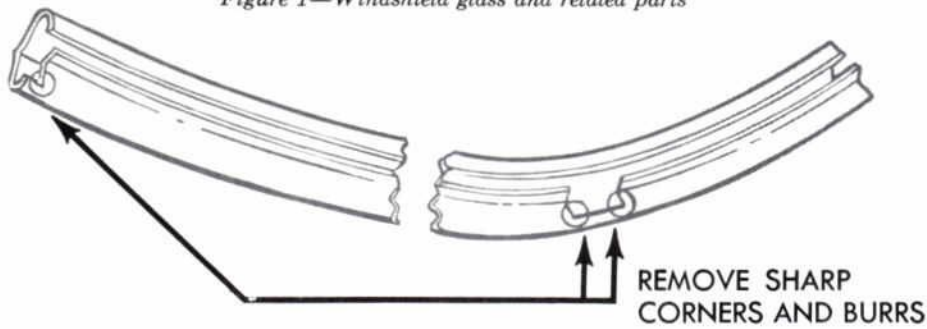


Figure 2—Windshield outside belt moulding

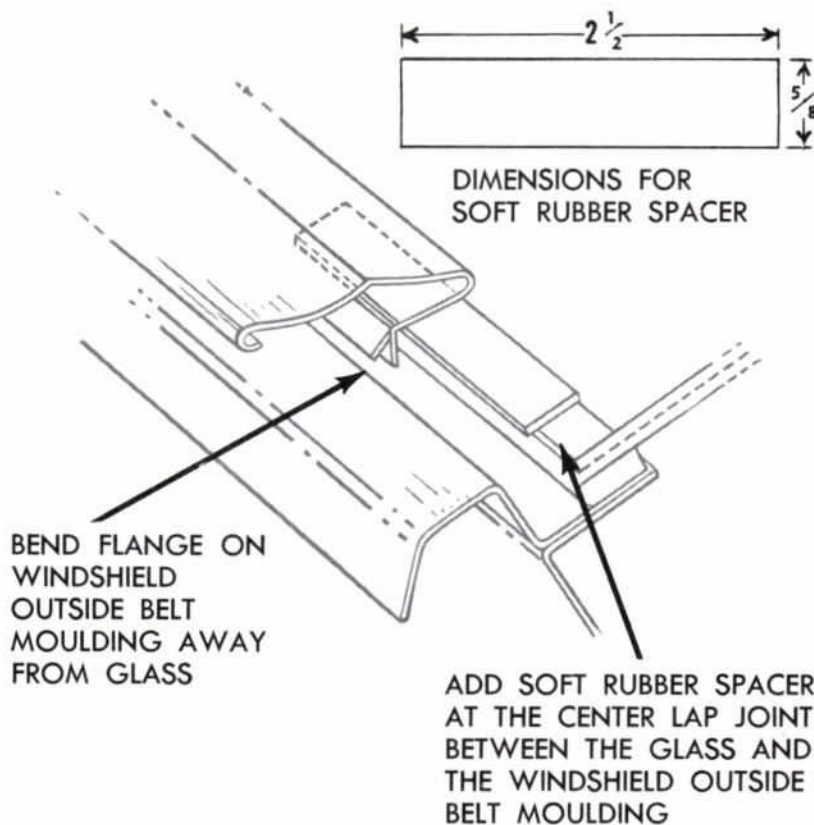


Figure 3—Return flange on outside belt moulding

Should the occasion arise where a glass specialty shop has to replace the windshield glass on a 1965 Ford, the following areas should be checked carefully before installing the new glass:

Any existing burrs and sharp corners on the flanges of the outside belt moulding should be removed. In addition, a soft rubber spacer should be added at the center lap joint between the glass and the windshield outside belt moulding as shown in Figure 2. Cement the spacer to the glass.

The return flange on the outside belt moulding should be bent away from the glass to prevent contact from being made which could put undue stress on the glass. Also the lower spacers along the bottom should be at least $5/16$ " high. See Figure 3.

On convertibles only, check the flange on the upper end of the outside side moulding to see if it is contacting the glass. If it is, bend or flatten the flange back to prevent the moulding from contacting the glass edge. See Figure 4.

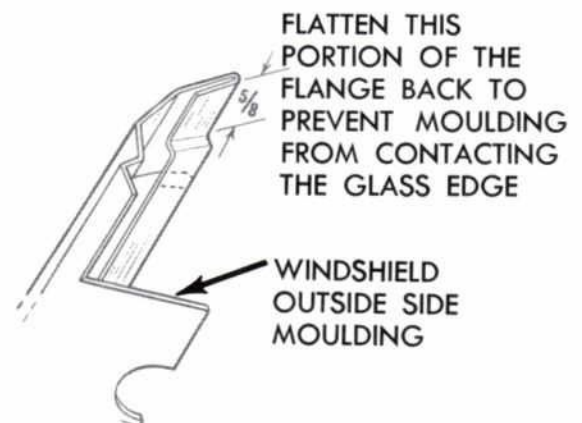


Figure 4—Convertible windshield outside side moulding

GLASS REPLACEMENT

Check the inside lower moulding to see if it is contacting the glass. If this is the case, when installing the lower inside moulding, make certain that the mounting tabs are correctly behind the body opening flange as shown in Figure 5. Also inspect the retainer spacer for distortion, replacing if necessary before installing the glass. Check to determine if the glass is supported by the spacers around the glass. Caulk the windshield opening flange with a fibre mallet to achieve correct contact between the glass and the retainer-spacer.

Be certain that the flange of the interior side garnish moulding is not contacting the glass. Clearance can be obtained by reshaping the moulding rearward as illustrated in Figure 6. Perform the reshaping with the moulding attached to the pillar and prior to installing the glass.

As a final step, be sure that the windshield glass is supported by all of the spacers around the opening to help prevent abnormal stresses in the glass which could cause further breakage. The body opening flange can be bent fore and aft to obtain full support. See Figure 7.

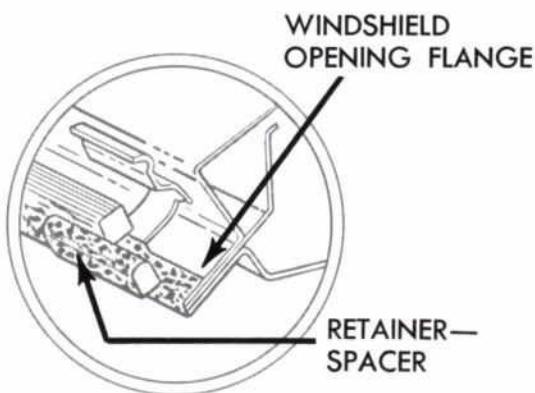


Figure 7—Windshield glass supporting spacers

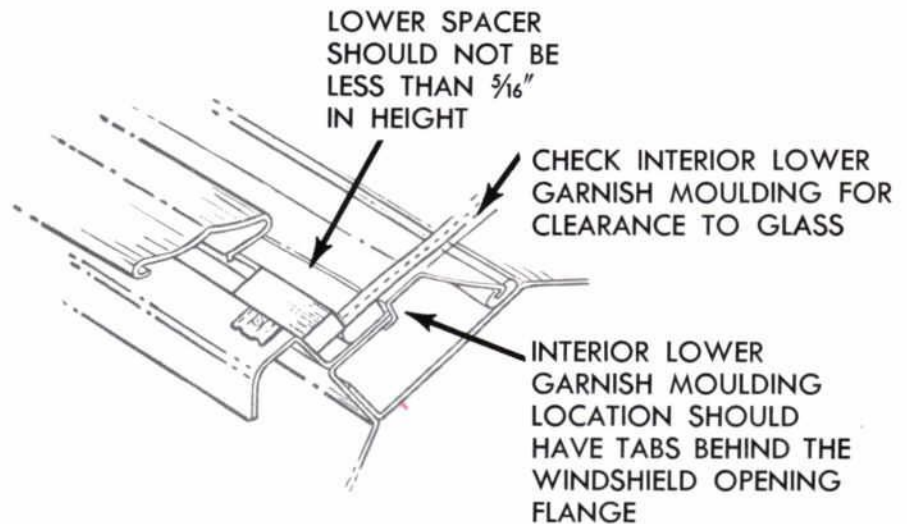


Figure 5—Interior lower garnish moulding

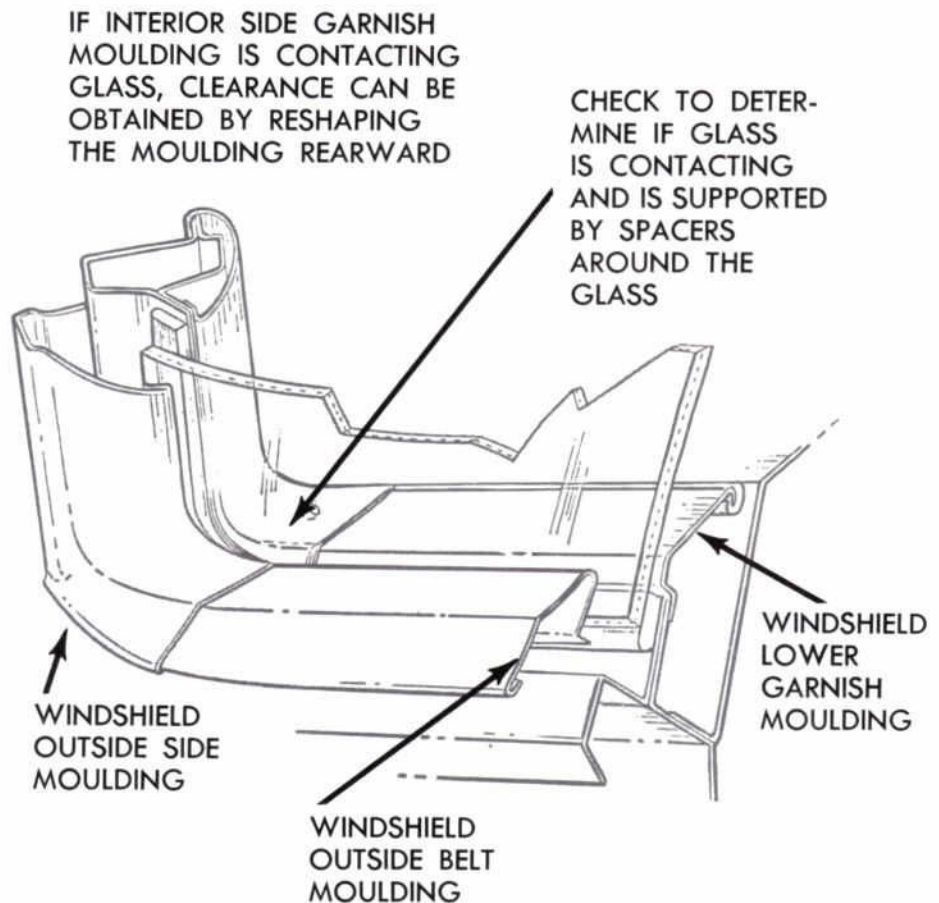


Figure 6—Interior side garnish moulding

1965 TOWING SPECIFICATIONS



TOWING A TRAILER

Trailers are classified into three groups.

1. The light trailer such as campers, luggage trailers, and normal size boat trailers, fully loaded weight of less than the car weight.
2. Heavy trailers such as heavy boat trailers and travel trailers, fully loaded weight up to that of the towing car.
3. Trailers exceeding the weight of the car.

In the first classification no special equipment is required except a good reliable hitch. However, in the second and third classifications care must be exercised, both relative to the towing vehicle specifications and hitch recommendations. Your Ford dealer can assist in obtaining the required special equipment necessary to tow trailers.

TRAILER HITCH

Equalizing frame hitch should be installed on all cars which are pulling a trailer, either travel trailer or boat trailer, where the tongue load exceeds 200 pounds. This type of hitch equalizes the tongue load over both the trailer wheels and to both rear and front wheels of the towing vehicle and enables the trailerist to level his car and trailer to the correct position for proper handling.

When hitching a trailer to a car use the trailer jack to lift the trailer tongue above the towing ball on your car, and lower over the ball and lock in position. The front of the trailer should be $1\frac{1}{2}$ " higher than the back end of the trailer when traveling on the highway. This is accomplished by the equalizing type hitch, and your car should remain level. This article contains tables of available optional equipment for the complete line of Ford cars and trucks and appropriate towing recommendations.

1965 FORD TOWING RECOMMENDATIONS (By vehicle towing classifications)			
	Classes 1 and 2 Gross trailer weight up to 3,000 lb. Static tongue load up to 300 lb.	Class 3 Gross trailer weight 3,000 to 4,000 lb. Static tongue load 300 to 400 lb.	Class 4 Gross trailer weight 4,000 to 5,500 lb. Static tongue load 400 to 550 lb.
Engine	240 Six, 289, 352 or 390 V-8	289, 352 or 390 V-8	352 or 390 V-8
Transmission	Cruise-O-Matic	Cruise-O-Matic	Cruise-O-Matic
Axle Ratio	3.50 to 1 w/240 Six 3.50 to 1 w/289 V-8 3.00 to 1 w/352 & 390 V-8	3.50 to 1 w/289 V-8 3.00 to 1 w/352 & 390 V-8	3.00 to 1 w/352 & 390 V-8
Cooling System	Standard	Extra Cooling Package**	Extra Cooling Package**
Wheels	Standard	Standard††	Standard††
Tires: Station Wagon	Standard	8.15 x 15 8-Ply Rating	8.15 x 15 8-Ply Rating
All Others	Standard	7.75 x 15 4-Ply Rating	8.15 x 15 4-Ply Rating
Brakes*	Standard	Heavy Duty, Riveted Linings**	Heavy Duty, Riveted Linings**
Suspension Front & Rear (springs & shocks)	Standard	Heavy Duty, with Ford adjustable air lift rear spring assists***	Heavy Duty, with Ford adjustable air lift rear spring assists***
Power Brakes	Recommended	Recommended	Recommended
Power Steering	Recommended	Recommended	Recommended
Alternator	Standard	55-Amp. Alternator	55-Amp. Alternator
Battery‡	Standard	Heavy Duty	Heavy Duty
Hitch	Load-equalizing type, frame attached, required with tongue loads over 200 lb. Available Ford engineering hitch installation drawings must be followed.		
MAXIMUM PERFORMANCE POWER TRAIN: 390 V-8, Cruise-O-Matic, 3.50 to 1 rear axle			

*Most states require trailer brakes over 1,500 lb. Some states over 1,200 lb.

†See Owner's Manual for vehicle load ratings.

‡Use heavy-duty battery with added electrical equipment: running lights, etc.

**Tow package w/ 352 or 390 V-8 & Cruise-O-Matic—SEDANS \$31.60; STATION WAGONS \$22.30

***Air lifts required option on station wagons; available for other models

††Standard equipment on station wagons

NOTE: Use of a bumper or axle hitch is not recommended. Cars equipped with air conditioner have extra cooling options included

1965 FAIRLANE TOWING RECOMMENDATIONS (By vehicle towing classifications)		
	Class 1 Gross trailer weight up to 2,000 lb. Static tongue load up to 200 lb.	Class 2 Gross trailer weight 2,000 to 3,000 lb. Static tongue load 200 to 300 lb.
Engine	200 Six 289 V-8 (2V), (4V)	289 V-8 (2V), (4V)
Transmission	Cruise-O-Matic	Cruise-O-Matic
Axle Ratio	3.25 to 1 w/200 Six 3.00 to 1 w/289 V-8's	3.00 to 1 w/289 V-8's
Cooling System	Standard	Extra Cooling Package
Wheels and Tires†	Standard	7.35 x 14 4-Ply (8-ply rating)
Brakes*	Standard	Heavy Duty, Riveted Lining
Springs	Standard	Heavy Duty, Front and Rear
Shock Absorbers (rear)	Standard	Heavy Duty
Power Steering	Standard	Recommended
Power Brakes	Standard	Recommended
Alternator	Standard	55-Amp. Alternator
Battery‡	Standard	Heavy Duty
Hitch	Load-equalizing type, frame attached, required with tongue loads over 200 lb. Available Ford engineering hitch installation drawings must be followed.	

*Most states require trailer brakes for trailers over 1,500 lb. Some states for over 1,200 lb.

†See Owner's Manual for vehicle load ratings.

‡Use heavy-duty battery with added electrical equipment: running lights, etc.

NOTE: Use of a bumper or axle hitch is not recommended

1965 MUSTANG TOWING RECOMMENDATIONS (By vehicle towing classification)		
	Class 1 Gross trailer weight up to 2,000 lb. Static tongue load up to 200 lb.	
	Minimum Requirements	Recommended
Engine	200 Six 289 V-8's (2V)	289 V-8's (2V), (4V)
Transmission	Cruise-O-Matic	Cruise-O-Matic
Rear Axle	Standard	Limited-Slip Differential‡
Axle Ratio	2.83 to 1 w/200 Six (3.20 Option) 2.80 to 1 w/289 V-8 (2V) 2.80 to 1 w/289 V-8 (4V)	2.80 to 1 w/289 V-8 (2V) 3.00 to 1 w/289 V-8 (4V)
Cooling System	Standard	Extra Cooling Package
Wheels and Tires†	6.95 x 14 4-Ply	6.95 x 14 4-Ply
Brakes*	Standard	Power Brakes
Steering	Standard	Power Steering
Alternator	Standard	Standard
Battery‡	Standard	Heavy Duty
Hitch	Rotunda, Frame-Mounted (only)	

*Most states require trailer brakes for trailers over 1,500 lb. Some states for over 1,200 lb.

†See Owner's Manual for vehicle load ratings.

‡Use heavy-duty battery with added electrical equipment: running lights, etc.

‡Limited-Slip differential not available with convertibles

NOTE: Use of a bumper or axle hitch is not recommended

1965 FALCON TOWING RECOMMENDATIONS (By vehicle towing classification)		
Class 1 Gross trailer weight up to 2,000 lb. Static tongue load up to 200 lb.		
	Minimum Requirements	Recommended
Engine	200 Six or 289 V-8	289 V-8
Transmission	Cruise-O-Matic	Cruise-O-Matic
Rear Axle	Standard	Limited-Slip Differential
Axle Ratio	2.83 to 1 w/200 Six 2.80 to 1 w/289 V-8	2.80 to 1
Cooling System	Standard	Extra Cooling Package
Wheels and Tires†	6.45 x 14 4-Ply	6.95 x 14 4-Ply
Steering	Standard	Power Steering
Springs	Standard	Standard
Shock Absorbers (rear)	Standard	Load Leveling Type
Brakes*	Standard	Standard
Alternator	Standard	Standard
Battery††	Standard	Heavy Duty
Hitch	Rotunda	Frame-Mounted Load-Equalizing Type

*Most states require trailer brakes for trailers over 1,500 lb. Some states for over 1,200 lb.

**Dealer installed

†See Owner's Manual for vehicle load ratings

††Use heavy-duty battery with added electrical equipment: running lights, etc.

‡Limited-Slip differential not available with convertibles or station wagons

NOTE: Use of a bumper or axle hitch is not recommended

1965 THUNDERBIRD TOWING RECOMMENDATIONS (By vehicle towing classification)		
	Classes 1, 2, 3 Gross trailer weight up to 4,000 lb. Static tongue load up to 400 lb.	Class 4 Gross trailer weight up to 5,500 lb. Static tongue load 400 to 550 lb.
Engine	390 V-8 (4V)	390 V-8 (4V)
Transmission	Cruise-O-Matic	Cruise-O-Matic
Axle Ratio	3.25 to 1	3.25 to 1
Cooling System	Standard	Extra Cooling Package
Wheels and Tires†	Standard	Standard
Brakes*	Standard	Standard
Suspensions (front & rear)	Standard	Heavy Duty
Power Steering	Standard	Standard
Battery†	80 amp-hr Heavy Duty	Heavy Duty
Alternator	Standard	Standard

HITCH—Load-equalizing type hitch, frame attached, required with tongue loads in excess of 200 lb. Available Ford engineering hitch installation drawings must be followed

†See Owner's Manual for vehicle load ratings

*Most states require trailer brakes for trailers over 1,500 lb. Some states for over 1,200 lb.

‡Use heavy-duty battery with added electrical equipment: running lights, etc.

NOTE: Use of a bumper or axle hitch is not recommended

FORD F-100 AND F-250 OPTIONAL EQUIPMENT PACKAGES FOR USE WITH CAMPER COACH BODIES

CAMPER SPECIAL PACKAGE NO. 1 (In addition to or in place of standard equipment)		
TRUCK AND BODY	129" wb. F-100 for 8-ft. Camper Coach	129" wb. F-250 for up to 10-ft. Cab-Over Coach
RECOMMENDED MAX. BODY AND PAYLOAD WEIGHT	Up to 1,200 lb.—StyleSide Pickup Up to 1,225 lb.—FlareSide Pickup Up to 1,650 lb.—Chassis-Cab	Up to 3,475 lb.—StyleSide Pickup Up to 3,500 lb.—FlareSide Pickup† Up to 3,925 lb.—Chassis-Cab‡
REAR AXLE: STD. (RATIO) OPT. LIMITED-SLIP (RATIO)	3.70 (Six), 3.50 (V-8) 3.54†	4.10 4.10
FRONT SPRINGS, HEAVY DUTY	1,125-lb. (Six)—1,250-lb. (V-8)	1,125-lb. (Six)—1,250-lb. (V-8)
REAR SPRINGS	1,250-lb. Main	2,400-lb. Main
ALTERNATOR	55-Amp.	55-Amp.
RADIATOR	Extra Cooling	Extra Cooling
IN ADDITION: Camp Special ornament, heavy-duty 70 amp-hr battery, dual Western-type mirrors, extended tailpipe, oil pressure gauge and ammeter		
MINIMUM REQUIREMENTS: Engine—300 Six or 352 V-8. Transmission—Cruise-O-Matic or 4-spd. manual. Tires—(F-100) 5-7.00 x 15 6PR. (F-250) 2-7.50 x 16 6PR (front) and 3-7.50 x 16 8PR (rear & spare) incl 5.50F split-rim type wheel. †With 7.50 x 16 10PR rear tires ‡3.73 with 300 Six and Cruise-O-Matic		
CUSTOM CAMPER PACKAGE NO. 2 FOR F250 (INCLUDES PACKAGE NO. 1)	DELUXE CAMPER PACKAGE NO. 3 FOR FK-250 STYLESIDE PICKUP (INCLUDES PACKAGES NO. 1 & 2)	
Custom Cab Deluxe Fresh Air Heater ICC Emergency Flasher Windshield Washers, 2-Speed Windshield Wipers Left-Hand Door Stowage Compartment Dual Horns	Padded Dash and Visors Seat Belts Chrome Front Bumper Deluxe Two-Tone Paint and Body Side Moldings Right-Hand Tool Stowage Compartment	

FORD LIGHT-DUTY TRUCK TRAILER TOWING SELECTOR CHART			
Gross Trailer Weight	Max. Gross Vehicle Weight	Model Recommended w/Max. Vehicle Payload	Max. Combined Wt. of Truck & Trailer
Up to 1,200 lb.	4,200 lb. (Std. GVW)	F-100 StyleSide—700 lb. F-100 FlareSide—740 lb.	5,600 lb. 5,600 lb.
1,200 to 2,000 lb. (w/trailer brakes)	5,000 lb. (Max. GVW)	F-100 StyleSide—1,425 lb. F-100 FlareSide—1,450 lb.	7,000 lb. 7,000 lb.
1,200 to 2,000 lb. (w/trailer brakes)	5,600 lb. (Max. GVW)	F-100 4x4 StyleSide—1,550 lb. F-100 4x4 FlareSide—1,600 lb.	7,600 lb. 7,600 lb.
2,000 to 3,300 lb. (w/trailer brakes)	6,700 lb. (Max. GVW)	F-250 StyleSide—2,875 lb.* F-250 FlareSide—3,625 lb.*	10,000 lb. 10,800 lb.
2,000 to 3,300 lb. (w/trailer brakes)	7,500 lb. (Max. GVW)	F-250 4x4 StyleSide—3,300 lb. F-250 4x4 FlareSide—3,325 lb.*	11,000 lb. 11,000 lb.
3,300 to 5,200 lb. (w/trailer brakes)	10,000 lb. (Max. GVW)†	F-350 Chassis-Cab—6,225 lb.†	15,200 lb.

*Limited-Slip differential rear axles available for trailer towing †With dual rear tires

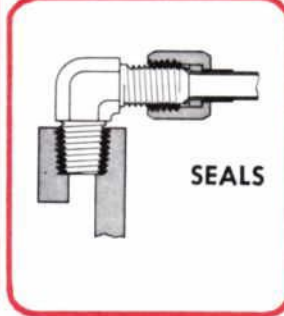
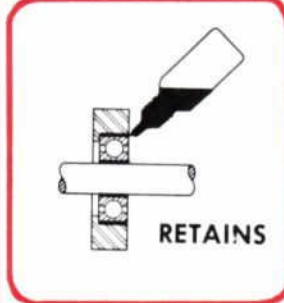
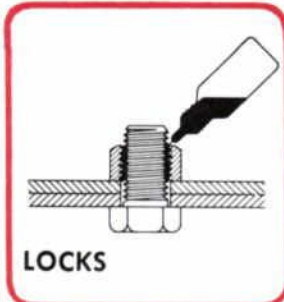
RECOMMENDED CHASSIS COMPONENTS—ECONOLINE FALCON STATION BUS AND CLUB WAGON CAMPERS	
Recommended Max. Payload	2,100 lb.
4930-lb. GVW Package	Includes: 2780-lb. rear axle • 10" x 2½" rear brakes • Heavy-duty shock absorbers • 955-lb. front springs • 1230-lb. rear springs • Stabilizer bar • Heavy-duty underbody structure • 7.35 x 14 8 PR tires
Engine	170 Six (standard)
Alternator	55 Amp. —825 Watt
Battery	Heavy Duty
Transmission	3-Speed Fully Synchronized (standard)
Rear Axle	Limited-Slip Differential

240 Six recommended for trailer towing

RECOMMENDED CHASSIS COMPONENTS FOR F-350 PICKUPS AND CHASSIS-CAB MODELS HAULING CAMPER COACHES		
Truck and Body	StyleSide or FlareSide Pickup	Chassis-Cab
Recommended Max. Body and Payload	Up to 3,800 lb.	Up to 6,225 lb. (with dual rear tires)
Engine	300-cu. in. Six or 352-cu. in. V-8	
Clutch, Dia.	Heavy Duty 11-inch (standard)	
Alternator	55 Amp.—825 Watt	
Battery	66 Plate—70 Amp-hr	
Transmission	4-Speed Manual (standard) or Cruise-O-Matic*	
Axle, Front	3,800-lb. (standard)	
Axle, Rear	7,400-lb. (standard)	
Brakes, Service	Vacuum Booster	
Shock Absorbers	Front and Rear	
Springs, Front	1,350 lb.	
Springs, Rear	3,200-lb. Single-Stage	
Wheels, 6-hole Disc	17 x 5.5 with single rear tires	
Tires, Tube-Type	16 x 5.50F with dual rear tires (chassis-cab only)	
Radiator	7.50 x 17 8PR with single rear tires	
	7.50 x 16 8PR with dual rear tires (chassis-cab only)	
	Extra Cooling†	

*Cruise-O-Matic w/300 Six only †Included with Cruise-O-Matic, dual rear tires or V-8 engine

LOCTITE SEALANT FOR YOUR SERVICE OPERATION



Loctite sealant is another quality product available from your Ford Dealer which can be a big aid to service personnel in the servicing and maintaining of all vehicles. It also has many home and shop applications that make normal household repairs more permanent.

Loctite is a thin liquid that hardens in the absence of oxygen into a tough plastic bond. Liquid locking with Loctite makes threaded parts self-locking preventing eventual breakdowns caused from loose bolts, nuts, and studs. Loctite seals joints pressure tight without heat or mixing. Sleeve joints can be assembled on tubing using Loctite instead of solder. No torch or flux is needed. Pipe or tube joints sealed with Loctite resist heat, cold, fuels, oil, water, and most chemicals.

More specific applications for Loctite are sealing stop light switches, fittings on power steering hydraulic systems, engine temperature sending units, air system fittings on trucks; locking turn signal levers, rocker arm studs, front suspension attaching nuts and bolts, parking brake release handles, and spring clip nuts (U-bolts).

Loctite is available under Ford Part Number C3AZ-19554-A. It comes in a 1 3/4 ounce bottle.

NEW RECOMMENDED TIRE PRESSURES

Owners of 1965 Ford Country Squire, Country Sedan and Ranch Wagon Station Wagons are advised of a change in the recommended cold tire pressures for these models.

FRONT — 22 lbs.

REAR — 30 lbs.

You can provide a big service to your Ford customers if you will advise them of this revision and by checking their tires for proper pressure so that they will conform to these latest recommendations.

PLEASE NOTE:

Please note the article on page 12 of the January Issue of SHOP TIPS entitled "Equa Lock Service Identification Tag".

The more common name for this assembly is the *Limited Slip Differential* which is optional with all 1965 Ford engines except the 427 CID High Performance engine.

CORRECTING CARBURETOR ICING ON 1963-64 N SERIES TRUCKS

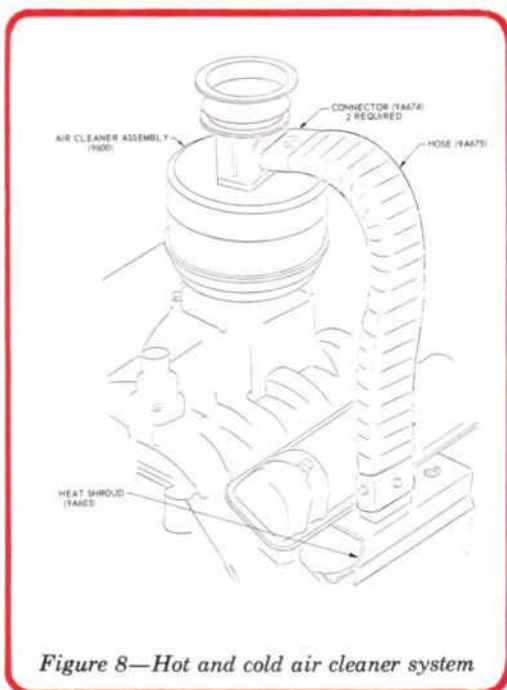


Figure 8—Hot and cold air cleaner system

If a problem of carburetor icing should arise on Ford N Series trucks, it can be corrected by installing a hot and cold air cleaner system. Carburetor icing can result in a gradual loss of power and eventual stalling during steady highway operation. The following parts are required to install a hot and cold system and are available through your local Ford Dealer's Parts Department:

1 Air CleanerC4TZ-9600-R	1 ShroudC3TZ-9A603-B
1 HoseC4TZ-9652-A	2 ConnectorC1TE-9A674-B

To install this system: See Figure 8

1. Discard the existing air cleaner.
2. Position the shroud hooks under the left exhaust manifold, and rotate the shroud to cover the manifold. Tighten the wing nut to secure it.
3. Install and fill new air cleaner.
4. Install the hose and connectors.
5. Reroute the tachometer cable to provide sufficient clearance.
6. Repositioning of the coil may be required for air cleaner clearance.

OBTAINING A FIRM BRAKE PEDAL AFTER SERVICING VEHICLES WITH DISC BRAKES

Whenever any service operations are performed on vehicles with disc brakes, it is mandatory, before moving the vehicle, that the brake pedal be pumped several times until a firm pedal is obtained. This is a safety measure to insure adequate pedal availability to any driver of the vehicle immediately after service. This disc brake adjustment requires that the pedal be pumped until firm to actuate the piston seals and to position the shoe and lining assemblies against the rotor within the caliper housing to eliminate any

abnormal brake lining to rotor clearance.

The brake pedal should be pumped until firm after making any of these service operations: Service or removal or replacement of the shoe and lining assemblies, front wheel bearing end play adjustment, caliper or rotor removal and installation or overhaul, front wheel and tire balancing, opening the hydraulic system due to line bleeding or line or valve replacement, and of course, any operation related to the disc brake system.

FORD WIRE-STYLE WHEEL COVER INSTALLATION

Proper care should be exercised when installing the Ford Wire-Style Wheel Cover to prevent any damage to it. The correct method is to place any retainer edge of the cover against the wheel rim and then push the wheel cover in the diametrically opposed location. This locates the cover and the holding covers can then be

pushed in all around. It should be noted that the outside rim of the wheel cover will stand away from the wheel flange. This design is not supposed to be flush against the wheel and no outside force should be used to obtain contact between the cover rim and the wheel. See Figure 9.

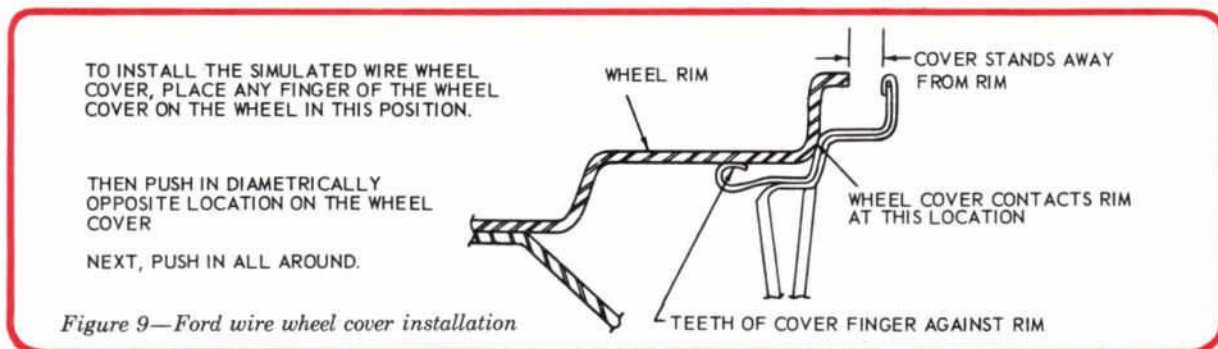


Figure 9—Ford wire wheel cover installation

THE FORD MARCH-APRIL SPOTLIGHT SPECIAL GIVES YOU TWO GOOD REASONS TO TRY FoMoCo PISTON RINGS

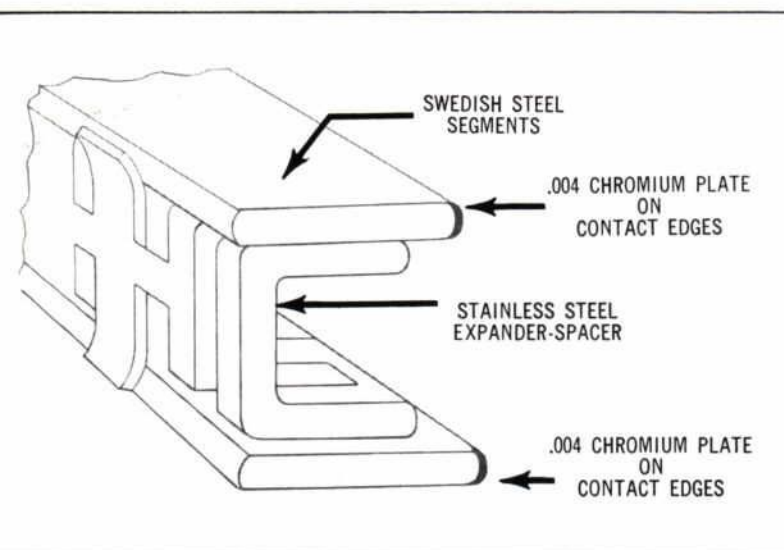
PRICE

Now, you can switch brands of Piston Rings and make extra profit on your next Ford engine overhaul job. Participating Ford dealers will give eligible wholesale accounts an extra discount of 40¢ on FoMoCo Hi-Lo Piston Ring partial sets during the months of March and April. Don't forget this is on a set of top quality replacement piston rings made exclusively for Ford engines in all conditions . . . high or low mileage, new, worn, or rebored. Check the price! FoMoCo Hi-Lo type piston ring sets cost less than other premium quality piston rings.

QUALITY

FoMoCo rings are premium quality. The oil control ring is made exclusively for Ford engines. The stainless steel expander-spacer puts outward pressure on the two Swedish steel segments which contact the cylinder walls. Large drainage areas virtually eliminate plugging.

The contacting surfaces of the segments are hard chromium plated to a thickness of .004" for outstanding long life.



FOR FURTHER INFORMATION, SEE YOUR LOCAL FORD DEALER . . . And don't forget, cash savings like these are available every month at your local participating Ford Dealer's Parts Counter.