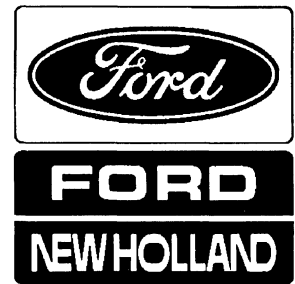


FORD

Service Manual



Tractor Series

2000, 3000, 4000, 5000, 7000
3400, 3500, 3550, 4400, 4500,
5500, and 5550

Part 1 – Engine Systems
Part 2 – Fuel Systems
Part 3 – Electrical System

1965 – 1975

Vol. 1

40200050

Reprinted

FOREWORD

This three-volume manual provides information for the proper servicing of the Ford 2000, 3000, 4000, 5000, and 7000 agricultural tractors. Keep this manual readily available for reference at all times.

The manual is grouped into 17 parts. Each part contains chapter divisions. The chapters contain such information as general operating principles, detailed inspection and repair procedures, and full specifics regarding troubleshooting, specifications, and special tools. Whenever possible, the special tools are illustrated performing their specific operations.

The page and figure numbers are consecutively numbered throughout each part of the manual and each page bears the date of issue. Specifications listed on some pages may differ from those in the text. In these cases, the specifications listed on the pages bearing the latest issue date should be used. Any reference made in the manual to right, left, front, rear, top, or bottom, is as viewed facing the direction of forward travel from the driver's seat.

The tractor and engine serial numbers, and the production code numbers for the transmission, hydraulic pump, rear axle and hydraulic power lift, are located on the individual components. An explanation covering the usage and location of these numbers is detailed on the following page. The serial numbers and production codes should be used on all correspondence relative to these Ford tractors.

The material contained in this manual was correct at the time the manual was approved for printing. Ford policy is one of continuous improvement and the Ford Motor Company reserves the right to discontinue models at any time or change specifications or design without notice and without incurring obligation.

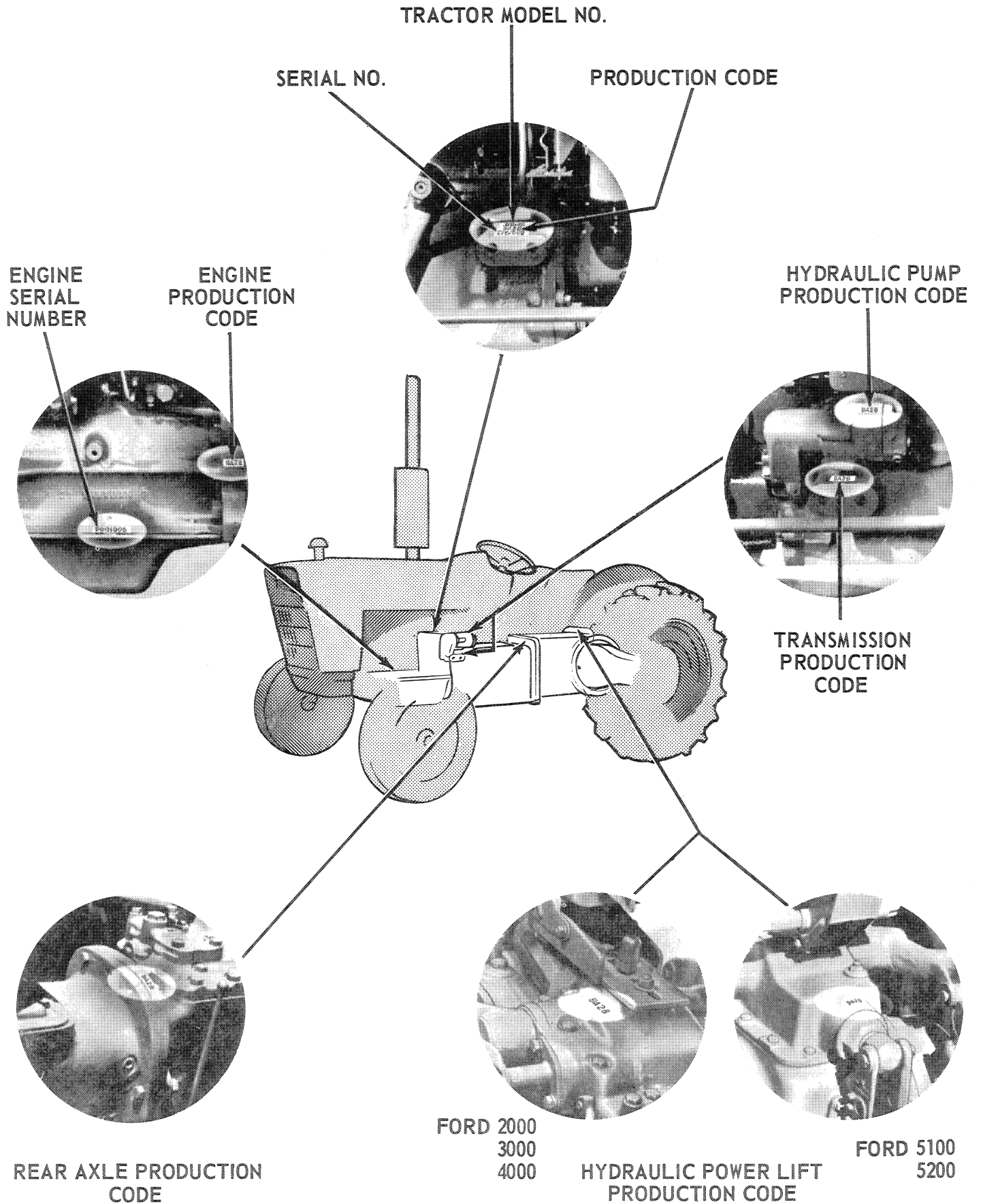


SAFETY PRECAUTIONS

Appropriate service methods and proper repair procedures are essential for the safe, reliable operation of all tractors, as well as the personal safety of the individual doing the work. This manual provides general directions for accomplishing service and repair work with tested, effective techniques. Following them will help ensure reliability.

There are numerous variations in procedures, techniques, tools, and parts for servicing tractors, as well as in the skill of the individual doing the work. This manual cannot possibly anticipate all such variations and provide advice or cautions as to each. Accordingly, anyone who departs from the instructions provided in this manual must first establish that he compromises neither his personal safety nor the machine integrity by his choice of methods, tools, or parts.

PRODUCTION CODES AND SERIAL NUMBERS



PRODUCTION CODES

<u>Year</u>	<u>Month</u>	<u>Day</u>	<u>Shift</u>
1965 - 5	Jan - A	Numerical	Midnight - A
1966 - 6	Feb - B	Date	Day - B
1967 - 7	Mar - C	1 through 31	Afternoon - C
1968 - 8	Apr - D		
1969 - 9	May - E		
1970 - 0	June - F		
1971 - 1	July - G		
1972 - 2	Aug - H		
1973 - 3	Sept - J		
1974 - 4	Oct - K		
	Nov - L		
	Dec - M		

Example of Production Code: 5A2B

5 _ _ _ Year - 1965

A _ _ Month - Jan

2 _ Day - 2nd

B Shift - Day

SERIAL NUMBERS

<u>Manufacturing Codes</u>	<u>Tractor</u>	<u>Fuel Type</u>
A	L - 2000	D - Diesel
B	N - 3000	G - Gasoline
C	P - 4000	P - Liquid Petroleum
	R - 5000	

Example of Engine Serial Number and Production Code: LG001005A5

L _ _ _ _ _	Ford 2000
G _ _ _ _ _	Gasoline Engine
001005 _ _ _ _ _	Serial Number
A5 _ _	Production Code - Built January, 1965

Example of Tractor Serial Number and Production Code: C1010025A2

C _ _ _ _ _	Manufacturing Code
101002 _ _ _ _ _	Serial Number
5A2 _ _	Production Code - Built 1965 January 2nd

NEW MODELS

FOREWORD

This Supplement covers the major differences between new and previous type Ford 2000, 3000, 4000 and 5000 Agricultural tractors. The mechanical changes detailed also apply to Ford 3400, 3500, 4400, 4500 and 5500 Industrial models. Changes to styling have little effect on service procedures, therefore where changes are merely ones of appearance, reference to the Parts Catalog should be made when replacing such items as radiator grilles, hoods and exhaust mufflers.

SERIAL NUMBERING AND DATE CODING

The following Serial Numbering and Coding information should be noted:

Model Code

The model code is stamped on the right-hand implement mounting pad of the transmission and is also shown on the identification decal located under the right-hand hood panel.

The first numerical digit which identified previous models has been changed to a letter for the new models. The chart below details the new code.

Model Identification		Chassis Type	Fuel Type	P.T.O. Type	Trans Type
<i>Previous Model</i>	<i>New Model</i>				
2 — 2000 —	B	10—Agricultural All Purpose 11—L.C.G. 12—Highway 13—Rice 20—Row Crop 30—Vineyard 31—Narrow 40—Utility 50—Industrial	1—Diesel 2—Gas 3—L.P.	1—No P.T.O. 2—Trans 540 3—Live 540 4—Independent 540 5—Independent 540-1000 6—Independent 540/1000 GD	A—4-Speed C—8-Speed E—Select-O-Speed F—4/4 T-C Power Reversing K—6/4 Manual Reversing
3 — 3000 —	C				
4 — 4000 —	D				
5 — 5000 —	E				

Example E 10 1 4 C

Thus a model E1014C indicates a new model Ford 5000 All Purpose Tractor equipped with a diesel engine, Independent (540 r.p.m.) P.T.O. and an 8-speed transmission.

Tractor Serial Numbers

These will carry on in the same sequence as with previous models. The following chart shows the approximate Serial Number of each new model.

Assembly Plant	Ford 2000	Ford 3000	Ford 4000	Ford 5000
Highland Park	C204631	C204849	C204998	C204852

NOTE: For an interim period previous model and new model tractors were being produced simultaneously; however, there were no previous model tractors produced with a date code after 8G19B.

Engine Serial Numbers

With the new models, Engine Serial Numbers begin again at 000001, while the "power class" prefixes have been changed as indicated below.

NOTE: A few of the first production new model Ford 2000 and 3000 engines were stamped with the previous Engine Number sequence.

Model	Engine Serial Number Prefix	
	Previous	New Model
Ford 2000	L	B
Ford 3000	N	C
Ford 4000	P	D
Ford 5000	R	E

Part 1

ENGINE SYSTEMS

FORD 4000 DIESEL ENGINE

To provide increased power, a new cylinder head with modified porting has been introduced together with a new high lift camshaft, fuel injection pump and injectors, and a new air cleaner.

Cylinder Head

The inlet ports of the new cylinder head are larger than those of the previous cylinder head to provide improved breathing. All valve seats are located 0.020 in. (0.52 mm) deeper.

This head may be used in service on previous Ford 4000 tractors.

When milling a new type head for service, the distance between the top of the valve seat and the head to cylinder block jointing face must not be less than 0.137 in. (3.48 mm) after milling.

Cylinder Head Gasket

An improved cylinder head gasket with wider beading on the underside of the gasket is used on the new models. This gasket may be used on previous Ford 4000 diesel engines. See Figure 1.

Camshaft

A new camshaft with higher cam lift and wider timing is used with the new model diesel engine.

Connecting Rod

Heavier I-section connecting rods are used on all new model Ford 4000 and 5000 engines. While these may be installed when servicing a previous type engine, they must not be mixed with the previous type connecting rods.

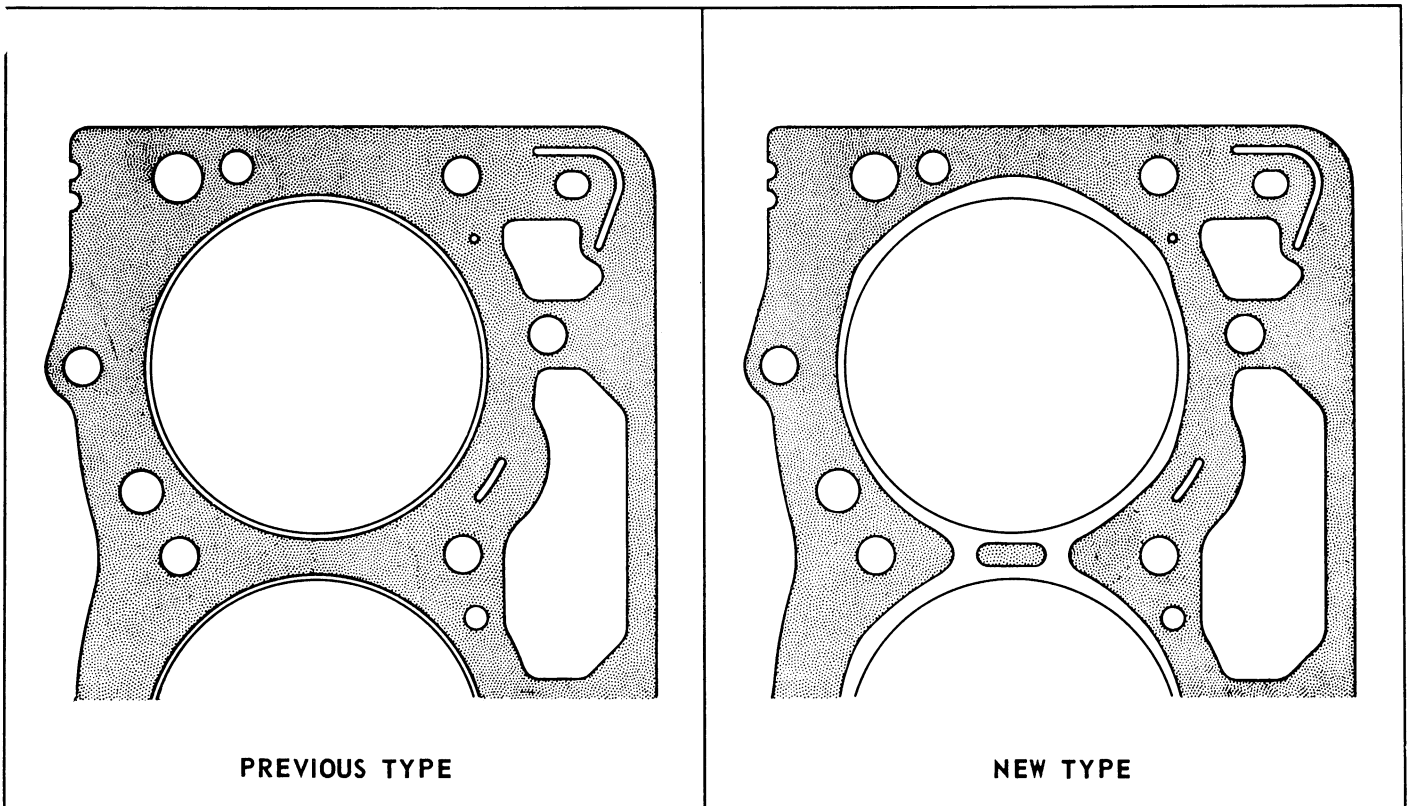


Figure 1
Cylinder Head Gasket

FORD 4000 GAS ENGINE

Increased power has been obtained by increasing the stroke from 4.2 in. (106.68 mm) to 4.4 in. (111.76 mm).

Cylinder Head and Gasket

A new cylinder head has been introduced which differs from that used on previous Ford 4000 gas engines in that the valve seats are located 0.020 in. (0.52 mm) deeper. There is no change to the cylinder head gasket.

Crankshaft

The crankshaft used in the new model Ford 4000 gas engine is common with the Ford 4000 diesel crankshaft and provides a stroke of 4.4 in. (111.76 mm).

Pistons

New pistons are used which have a piston pin-to-piston crown height of 2.523/2.525 in. (64.08/64.14 mm). Previous Ford 4000 gas pistons had a piston pin to crown height of 2.741/2.743 in. (69.62/69.67 mm). See Figure 2.

Connecting Rods

New model Ford 4000 gas engines have the same heavier I-section connecting rods as are used on the new model Ford 4000 diesel and 5000 gas and diesel engines.

FORD 5000 DIESEL ENGINE

Increased power for the new model Ford 5000 diesel engine has been achieved by increasing the cylinder bore diameter, introducing a new cylinder head with modified porting, a new camshaft and pistons, and a new injection pump and injectors.

Cylinder Block

The new model Ford 5000 cylinder block has piston bores which are 4.4 in. (111.76 mm) diameter, whereas the previous Ford 5000 bores were 4.2 in. (106.88 mm) diameter.

Pistons

While the pistons have been increased to the same diameter as those of the Ford 4000, they are not identical with the Ford 4000 pistons in that the Ford 5000 piston pin-to-piston crown height is greater. See Figure 2.

Piston Pin to Crown Height – Diesel	
Ford 4000	Ford 5000
2.661/2.663 in. (67.59/67.64 mm)	2.761/2.763 in. (70.13/70.18 mm)

Specified piston-to-bore clearance with these new Ford 5000 pistons is 0.0080/0.0090 in. (0.2032/0.2286 mm).

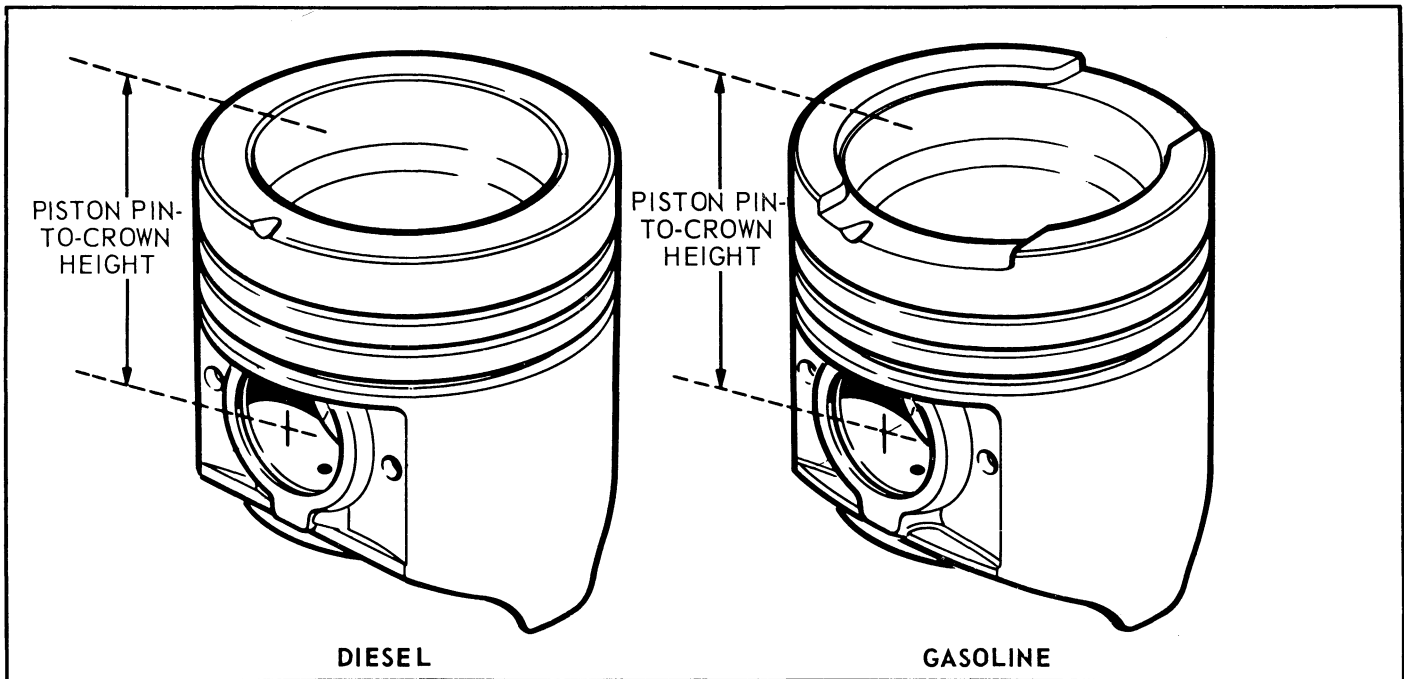


Figure 2
Piston Pin-to-Crown Height

Connecting Rods

Heavier I-section connecting rods, identical with those used on the new model Ford 5000 gas and Ford 4000 diesel and gas engines, are used on the new model Ford 5000 diesel engine.

Cylinder Head

A new cylinder head with increased diameter inlet ports to provide improved breathing, and valve seats located 0.020 in. (0.52 mm) deeper, is used on the new model Ford 5000 diesel engine.

The new head may be used on previous Ford 5000 engines but, as with the new model Ford 4000 diesel engine cylinder head, if it ever requires milling, the distance between the valve seat and the head face must not be less than 0.137 in. (3.48 mm) after milling.

Cylinder Head Gasket

New type with wide beading interconnecting the bores on the underside of the gasket. Because of the larger bores in the new model Ford 5000 diesel engine, this gasket is not suitable for use on any previous engine.

Camshaft

New type with higher cam lift.

Oil Pan

A new oil pan has been introduced on new model Ford 5000 engines and the specified oil capacity of the engine, including filter, has been increased to 10 U.S.qts. (16.75 Imp. pints)(9.5 litres).

FORD 5000 GAS ENGINE

Increased power for the new model Ford 5000 gas engine has been achieved by increasing the cylinder bore diameter, introducing new pistons to suit, a new cylinder head with deeper valve seats, and a new air cleaner with increased oil capacity.

Cylinder Block

Piston bore diameter increased from 4.2 in. (106.68 mm) to 4.4 in. (111.76 mm).

Pistons

New type pistons are used on new model Ford 5000 gas engines. Although these are of the same diameter as the Ford 4000 gas engine piston, the new model Ford 5000 piston has a greater piston pin-to-piston crown height than the new Ford 4000 gas piston, and a lesser piston pin-to-crown height than the previous 4000 gas piston.

Piston Pin-to-Crown Height – Gas		
Previous Ford 4000	New Model Ford 4000	New Model Ford 5000
2.741/2.743 in. (69.62/69.67 mm)	2.523/2.525 in. (64.08/64.14 mm)	2.662/2.664 in. (67.62/67.67 mm)

Specified piston-to-bore clearance is 0.0032/0.0042 in. (0.8128/0.8627 mm) with these new pistons.

Cylinder Head and Gasket

The cylinder head is new in that the valve seats are located 0.020 in. (0.52 mm) deeper than on the previous Ford 5000 gas engine.

A new cylinder head gasket has been introduced to suit the larger bore size of the new model Ford 5000 gas engine.

Connecting Rods

Heavier I-section connecting rods, identical with those used on new model Ford 5000 diesel and Ford 4000 gas and diesel engines, are used on the new model Ford 5000 gas engine.

Oil Pan and Dipstick

The new oil pan described under Ford 5000 Diesel Engine is also used on the Ford 5000 Gas engine, and the oil capacity of the engine has been increased to 10 U.S. qts. (16.75 Imp. pints) (9.5 litres).

FORD 2000 AND 3000 GAS AND DIESEL ENGINES

The changes in new model Ford 2000 and 3000 engines are minor and are mainly introduced to take maximum advantage of machining and manufacturing techniques which have been changed to accommodate the new model Ford 4000 and 5000 engines.

Cylinder Head and Gasket

Although new cylinder head part numbers have been allocated, the only difference between the cylinder heads used previously and those used with the new model engines is that the latter have the valve seats located 0.020 in. (0.52 mm) deeper.

A new cylinder head gasket with wide leading inter-connecting the bores on the underside of the gasket is used on new model Ford 2000 and 3000 diesel engines. This gasket may be used for service on previous Ford 2000 and 3000 diesel engines.

Camshaft – Diesel Engines only

A new camshaft with higher cam lift is used in new model Ford 2000 and 3000 diesel engines. This change

is merely to commonize with the camshaft of the new model 4000 diesel engine.

The camshaft of the Ford 2000 gas engines, and also that of the Ford 3000 gas engines, are unchanged.

Crankshaft – Ford 3000 Diesel

Apart from a difference in material, the crankshaft in the Ford 3000 diesel engine is virtually identical with that of the previous type Ford 4000 gas engine. The current Ford 3000 diesel crankshaft will be discontinued when existing stock is exhausted. The crankshaft used in the previous Ford 4000 gas engine will then be used for production and service of all Ford 3000 diesel engines, as well as for service of the previous Ford 4000 gas engine.

COOLING SYSTEM

New radiators have been introduced with some of the new model Ford 4000 and 5000 Agricultural tractors and the 5200 Row Crop tractor. The difference is in the num-

ber of cooling fins per inch. There are no changes to the radiators in Ford 2000 and 3000 tractors.

Model	Engine	Trans.	Cooling Option	No. of Radiator Fins/inch	
				Previous	New Model
4000	Gas	8-Speed and Select-O-Speed	Standard	5	7
4000	Gas	Select-O-Speed	Tropical	7	9
4000	Diesel	8-Speed	Standard	5	7
4000	Diesel	8-Speed	Tropical	5	7
4000	Diesel	Select-O-Speed	Standard	No change	
5000	Gas	8-Speed and Select-O-Speed	Standard	7	9
5000	Diesel	8-Speed	Standard	5	9
5000	Diesel	Select-O-Speed	Standard	7	9
5000	Diesel	8-Speed and Select-O-Speed	Tropical	7	9
5200	Row Crop	All Models		7	9

Part 2

FUEL SYSTEMS-DIESEL

FORD 2000 and 3000

The fuel injection pumps and injectors of new model Ford 2000 and 3000 tractors are identical to those used on the previous model Ford 2000 and 3000 tractors.

FUEL INJECTORS

The fuel injectors used in new model Ford 4000 and 5000 engines differ from those used in previous Ford 4000 and 5000 engines. The outward appearance of the new injector is the same as those used on the previous tractors. The difference between current and previous injectors is in the size and angle of the nozzle holes which, without accurate gauges, cannot be readily recognized.

For this reason, when re-conditioning injectors in service, special attention should be given to the identification code numbers which are etched on the body of the nozzle. This number in conjunction with the following chart will enable each nozzle to be identified with the tractor it was designed for.

Previous New Range Tractors	Nozzle Identification	Current New Model Tractors	Nozzle Identification
Ford 2000	BDLL150S6443	Ford 2000	BDLL150S6443
Ford 3000	NL 413	Ford 3000	NL 413
Ford 4000	BDLL150S6476	Ford 4000	BDLL140S6422
Ford 5000	NL 413	Ford 5000	BDLL140S6422

FORD 4000 DIESEL - AIR CLEANER

The air cleaner specified for use with the new Ford 4000 diesel engine is the same as that used on the previous and current Ford 5000 tractor. The diameter of this cleaner is 7 in. (178 mm) as compared to the 6.5 in. (165 mm) diameter cleaner previously used on the Ford 4000. The inlet and outlet ports are 2.25 in. (57.15 mm) diameter as compared to the 2 in. (50.8 mm) diameter ports in the previous cleaner. The air cleaner hoses have been changed accordingly.

Part 2

FUEL SYSTEMS-GAS

FORD 5000 (GAS) - AIR CLEANER

A new air cleaner is used with the new model Ford 5000 gas engine. This cleaner has a diameter of 7 in. (178 mm) compared to the 6.5 in. (165 mm) diameter cleaner used on the previous Ford 5000 gas tractor. It has an inlet port diameter of 2.25 in. (57.15 mm) as compared to the 2.0 in. (50.8 mm) diameter inlet port in the previous cleaner used on Ford 5000 gas tractors.

ALL GAS ENGINES - NO LOAD AND IDLE SPEEDS

The following no load and idle speeds are specified for new model gasoline engines.

Model	No Load Speed	Idle Speed
Ford 2000	2065-2165	600-700
Ford 3000	2285-2385	600-700
Ford 4000	2395-2495	600-700
Ford 5000	2285-2385	600-700

Part 3

ELECTRICAL SYSTEM

**ALL MODELS –
GENERATORS AND REGULATORS**

All new model Ford 3000, 4000 and 5000 tractors have 22 amp. generators and regulators as standard equipment.

For a short period the 11 amp. generator and regulator may be installed on Ford 2000 tractors but eventually this model will also have the 22 amp. parts.

NOTE: *It is not permissible to mix a 22 amp. generator with an 11 amp. regulator or vice versa. It is important, therefore, that care is taken to check which type is installed on a Ford 2000 before installing a service replacement.*

**ALL TRACTORS WITH SELECT-O-SPEED –
OIL PRESSURE WARNING LIGHT**

It is no longer considered necessary to have an oil pressure warning light on Select-O-Speed transmissions

and this item is, therefore, not incorporated on new model tractors.

Existing stocks of Select-O-Speed transmissions which incorporate a distributor plate assembly with a threaded hole for the warning light switch will continue to be used. As an interim measure, the switch will still be installed in the distributor plate assembly but its function will be merely that of a blanking plug to maintain pressure in the system.

Similarly, existing wiring harnesses will continue to be used but the wire connecting the warning light switch to the light (white/light green) is cut at a point 5 in. (12.7 cm) outside the rubber grommet in the cover, and at the wire clip inside the cover.

When existing stocks of wiring harnesses are exhausted, new wiring harnesses with only two wires will be introduced, and the warning light switch will be superseded by a pipe plug.

Part 4

CLUTCHES

FORD 5000 – 13" CLUTCH DISC

In December, 1967, the standard 12 in. (30.5 cm) diameter clutch disc was changed to the type which has a torsion spring damped hub and woven linings. A similar 13 in. (33 cm) disc has been introduced with the new model Ford 5000 for use in heavy duty applications where requested, Figure 3.

It should be noted that the spacers used between the new 13 in. clutch pressure plate cover and the flywheel have a different thickness from those used with the previous 13 in. clutch. It is important that the correct spacers are used in accordance with the disc being installed.

Previous type
spacer thickness 0.184/0.200 in. (4.67/5.08 mm)

New type
spacer thickness 0.090/0.100 in. (2.29/2.54 mm)

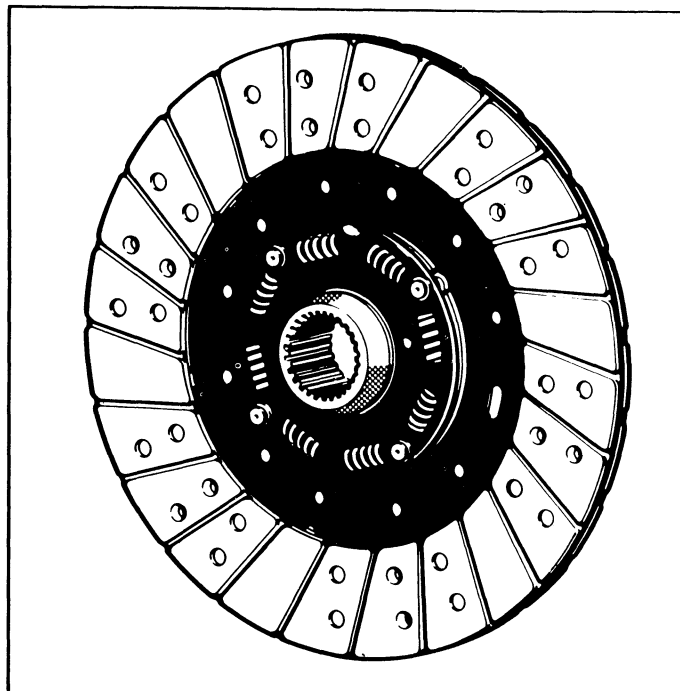


Figure 3
Ford 5000 – 13" Clutch Disc for Special Applications

**FORD 2000/3000 WITH LIVE P.T.O. —
DOUBLE CLUTCH ASSEMBLY**

A new double clutch assembly has been released for use with the new model Ford 2000 and 3000 tractors with Live P.T.O.

The principal difference between the new assembly and that used previously is that the new assembly has a larger gap adjustment between the socket head (Allen) screws on the top of the P.T.O. pressure plate connecting links and the release lever struts, see Part 4, Chapter 2, of the Tractor Repair Manual.

This gap should be adjusted on new model double clutches to 0.070–0.074 in. (1.78–1.88 mm). The shank of a No. 50 drill may be used as a gauge when adjusting this gap, Figure 4.

The new double clutch assembly may be used in a previous tractor, but before installation, the gap mentioned above should be adjusted to the previous specification of 0.050–0.054 in. (1.27–1.37 mm) using the shank of a No. 54 drill as a gauge.

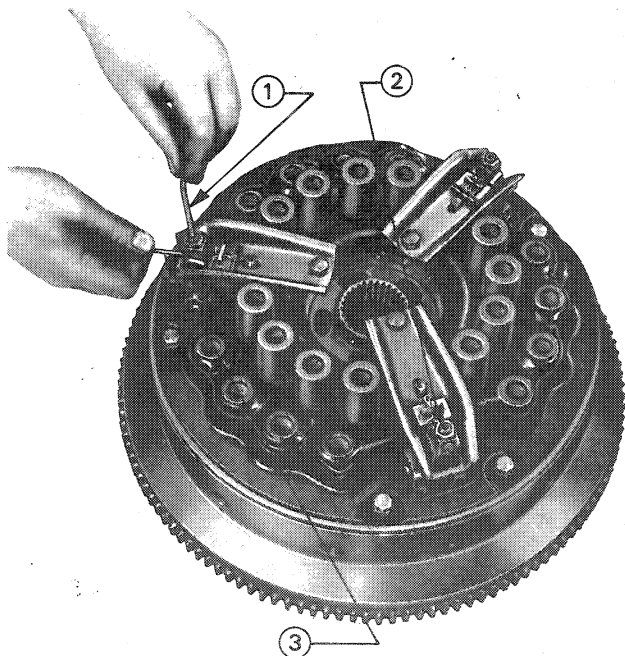


Figure 4
Setting P.T.O. Clutch Gap

- (1) Socket Key
- (2) Socket Head Adjusting Screw
- (3) Drill Shank as Gauge

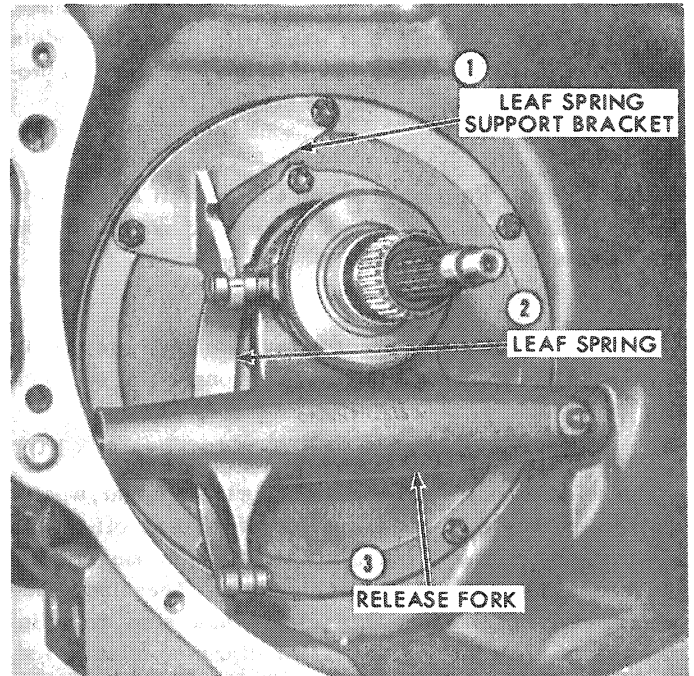


Figure 5
Clutch Release Bearing Spring and Fork

**FORD 2000/3000 DOUBLE AND FORD 4000
SINGLE CLUTCH — RELEASE LINKAGE**

Release Bearing Return Spring — A new leaf type clutch release bearing return spring has been introduced on Ford 2000 and 3000 tractors with a double clutch and on the Ford 4000 with a single clutch. See Figure 5.

Clutch Release Fork — New forks which extend fully across the transmission housing and completely enclose the cross-shaft are used in conjunction with the above-mentioned leaf spring. See Figure 5. The material from which the fork is manufactured has been changed, and the fork pads, which contact the release bearing hub, are specially hardened to reduce wear and provide minimal friction losses.

Release Bearing Hub — New release bearing hubs with specially hardened faces at the points of contact with the release fork have been introduced on these new models.

Release Bearing Hub Support Plate and Bracket — A bracket for each model has been introduced which acts as a fulcrum point for the new leaf spring. This bracket is secured by two longer bolts which pass through the release bearing hub support plate. See Figure 5.

The release bearing hub support plate used on these new models differs from that used with previous models in that the plate casting is filled in and machined to provide a supporting surface for the bracket.

Clutch Pedal, Release Rod and Cross-shaft Arm – New design pedals and release rods are used on these new type models.

The new model pedals vary from those used previously in that the portion below the pivot is longer and set back at a greater angle.

The release rods for the new models are straight, whereas the previous rods had a portion which was off-set. In addition, the release rod used on the new model Ford 2000 and 3000 with a double clutch has been increased in diameter. The adjustable clevis has also been increased in size to suit the larger diameter release rod.

The cross-shaft arm of new model Ford 2000 and 3000 Live P.T.O. tractors is longer between centers than that used on previous models, and it has a different off-set to suit the new type release rod.

Together, these changes enable the clutches to be released with less effort than was required on previous models.

**FORD 2000/3000/5000 SINGLE CLUTCH –
RELEASE LINKAGE**

Clutch Release Forks – New release forks have been introduced that differ only in the material. The fork contacts pads are specially hardened.

Release Bearing Hubs – New release bearing hubs with specially hardened faces at the points of contact with the release fork have been introduced.

Release Bearing Hub Support Plate – This has been changed for new model Ford 2000 and 3000 tractors with a single clutch to commonize with the support plate used on new model Ford 2000 and 3000 tractors with a double clutch. As the leaf spring type of release mechanism is not used on these models, there is no necessity for a spring fulcrum bracket; hence the change to the hub support plate is of no significance in service.

There is no change to the hub support plate on the Ford 5000.

Clutch Pedals, Release Rods and Cross-shaft Arms – New design pedals, release rods and cross-shaft arms are used on the new model Ford 2000 and 3000 tractors with a single clutch and on the new model Ford 5000.

Each of the new pedals is longer below the pivot point and the lower end is set back at a greater angle.

On the new model Ford 2000 and 3000 tractors with a single clutch, the clutch release rod is straight compared to the off-set design of the previous rod. It is also longer than the previous rod, as is the new release rod used on the Ford 5000.

The cross-shaft arm of the Ford 5000 is unchanged, but on the new model Ford 2000 and 3000 tractors with a single clutch, a new arm is used which has a different off-set to the previous arm.

CLUTCH PEDAL ADJUSTMENT

Regular checks on clutch pedal free play is very important. Recommendations are that this check be made at intervals of 50 hours of operation.

NOTE: *This 50 hour check is now recommended for previous 2000, 3000, 4000 and 5000 tractors as well as on the new model tractors.*

Because of linkage changes, the free play specified for new models, see following table, differs from that specified for previous models.

Clutch Pedal Free Play – New Model Tractors

Ford 2000/3000 with Transmission P.T.O.	1.12–1.38 in. (28–35 mm)
Ford 2000/3000 with Live P.T.O.	1.38–1.63 in. (35–41 mm)
Ford 4000 with Transmission P.T.O.	1.25–1.50 in. (32–38 mm)
Ford 4000 with Independent P.T.O.	1.62–1.88 in. (41–48 mm)
Ford 5000	1.25–1.50 in. (32–38 mm)

Clutch Pedal Total Travel – Tractors with Live P.T.O.

On Ford 2000 and 3000 tractors with Live P.T.O. it may also be necessary to adjust the clutch pedal linkage in order to maintain correct **total** travel of the clutch pedal and so ensure that the P.T.O. clutch can be released when the pedal is fully depressed.

To adjust the pedal travel:

First adjust the length of the clutch release rod so that the clutch pedal is 8.50 in. (22 cm) above the foot platform with free play taken up, see Figure 6. This is the initial setting height for the pedal and some slight alteration may be required, as indicated below, to ensure that full release of the P.T.O. clutch is obtained.

Move the P.T.O. shift lever into the engaged position and start the engine, then fully depress the clutch pedal and check that the P.T.O. shaft stops revolving.

If the P.T.O. shaft does not stop revolving when the pedal strikes the stop on the foot platform, re-adjust the length of the release rod, and hence the pedal height, until satisfactory release of the P.T.O. clutch is obtained.

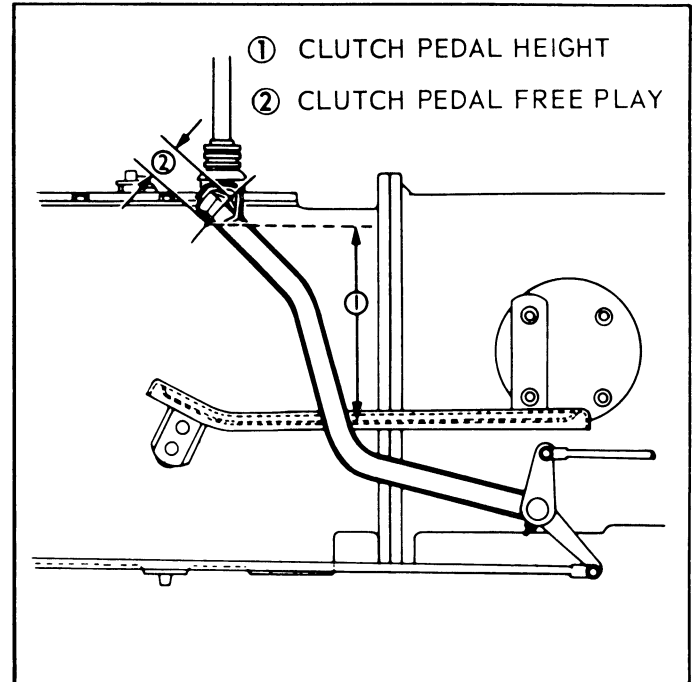


Figure 6
Clutch Pedal Height and Free Play

Part 7

SEVEN-AND EIGHT-SPEED TRANSMISSIONS

FORD 5000 – OIL CAPACITY

The quantity of oil specified in 7-speed and 8-speed transmissions of new model Ford 5000 tractors has been reduced to 10.5 U.S. qts. (18.5 Imp. pints) (10.2 litres). No oil level plug is used on these transmissions. A new combined filler plug and dipstick has been introduced.

A new 7/8 speed transmission housing has been introduced on new model Ford 5000 tractors. The new housing has an oil groove for feeding oil to the reverse idler gear.

Should it be necessary to install a service replacement housing, it is essential that only the correct new type be used in conjunction with the oil level dipstick and lower oil level of a new model Ford 5000.

GEAR SHIFT EFFORT

To reduce the physical effort required to shift gears on the 7-speed and 8-speed transmissions, the following changes have been made effective with new model tractors.

Gear Shift Levers and Lever Spring

The main gear shift lever and the High/Low gear shift lever of new model Ford 5000 tractors are 3 in. (76.2 mm) and 2.5 in. (63.5 mm) longer respectively than their counterparts.

Similarly, the main gear shift lever and the High/Low gear shift lever used on new model Ford 2000, 3000 and 4000 tractors are 2.38 in. (60.5 mm) and 2.72 in. (69.0 mm) longer respectively than their counterparts.

The gear shift lever ball retainer spring, common to all the levers, has been changed to one which applies a lighter load.

Gear Shift Rail Detent Springs and Pins

Lighter springs have been introduced between the main gear shift rail detent balls and the gear shift cover of 7-speed and 8-speed transmissions.

The lighter spring is also used in the High/Low shift rail position. In addition, the pin between the spring and the top cover has been shortened.

Gear Shift Selector Arm Spring

A lighter selector stop plunger spring has been intro-

duced for the 4th/8th selector fork of the 7-speed and 8-speed transmissions of the new model Ford 5000.

This spring is also used on the 4th/8th selector arm of the 7-speed and 8-speed transmissions of the new model Ford 2000, 3000 and 4000 tractors.

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