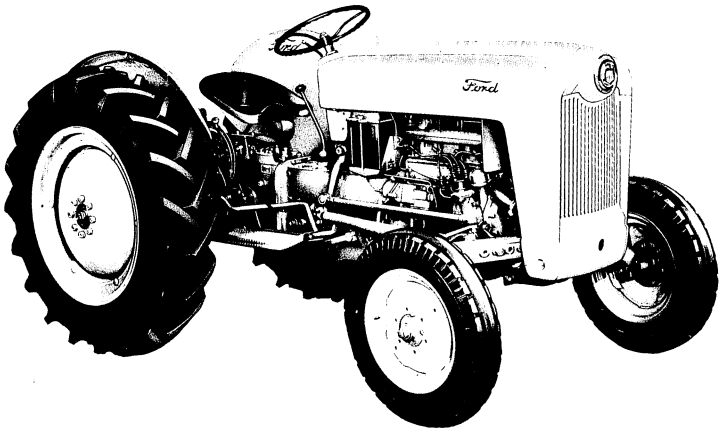
OWNER'S MANUAL



Model NAA

FORD TRACTOR

42881007

Reprint

FORD TRACTOR OWNER'S MANUAL

Model NAA

SECTIONS

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CONTENTS

INTRODUCTION

This manual has been prepared to assist you in the daily care and operation of your Model NAA Ford Tractor. The manual is divided into several sections. The section index on each title page indicates the subject covered in that section.

The design of your tractor is the result of many years of engineering and research by the Ford Motor Company. The finest development methods and equipment available were used in the development of your tractor. Every care has been exercised in the design, selection of materials and in manufacture to provide satisfactory service and economical operation over a long period of time.

Every tractor is carefully inspected before leaving the factory. A pre-delivery inspection is also made by your dealer prior to delivery. How long or how well your tractor continues to give satisfactory service depends upon the care it receives. Engineering and manufacturing ingenuity can never compensate for tractor abuse in the hands of the operator. It is the owner's responsibility to establish regularly scheduled service periods in accordance with the hours shown on the Proof-Meter, as recommended in Section 10 of this manual.

Have your dealer inspect the tractor at least twice yearly. His factory trained technicians, using scientific instruments, are equipped to render the kind of service it takes to keep your tractor running in top condition. When service work is performed, always insist on genuine Ford Tractor repair parts.

FORD TRACTOR DIVISION
FORD MOTOR COMPANY
SERVICE DEPARTMENT
BIRMINGHAM, MICHIGAN

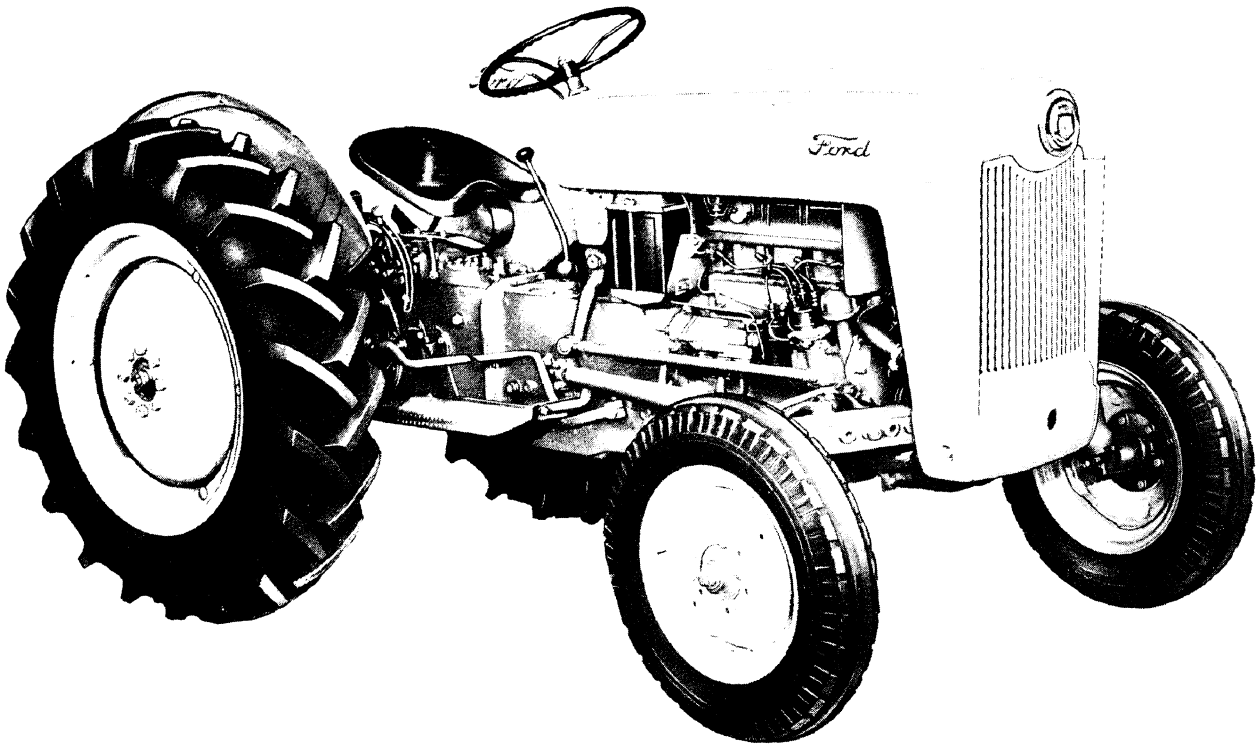

Figure 1 NAA Ford Tractor - 3/4 Front View

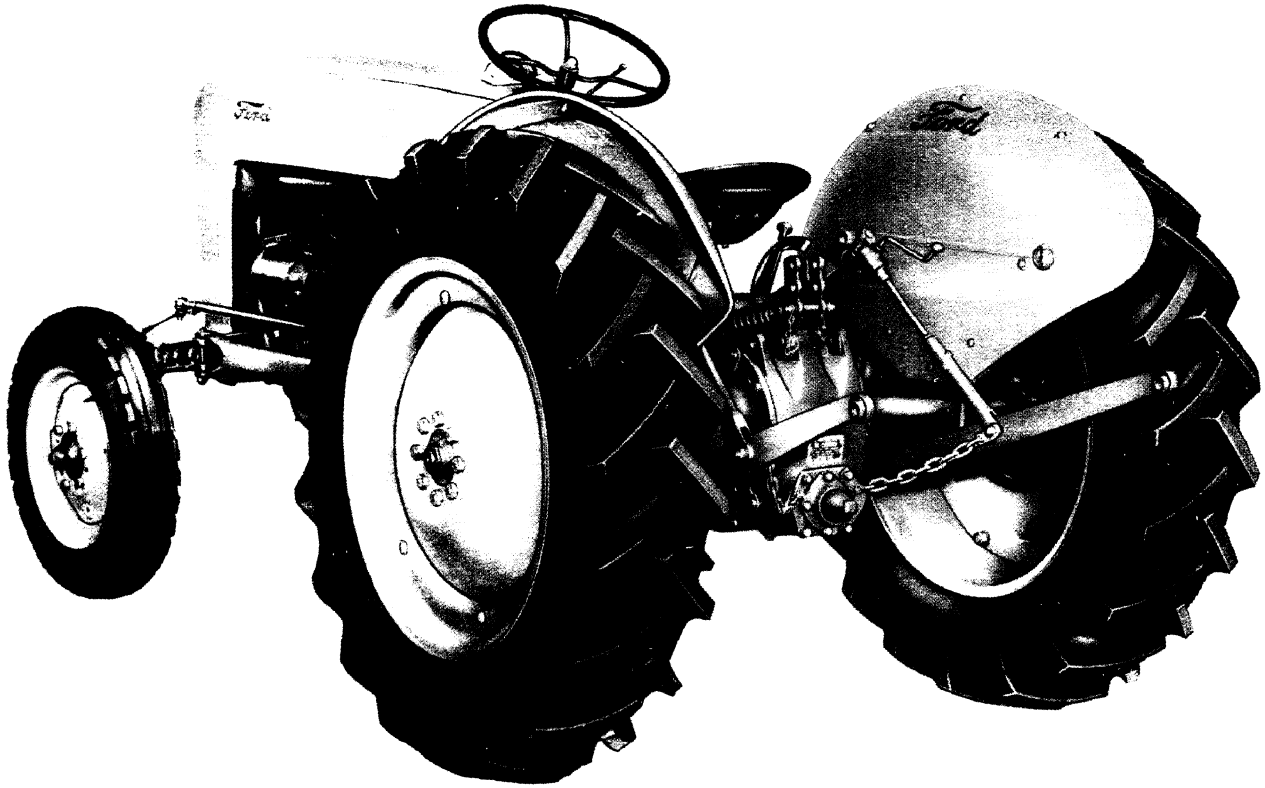

Figure 2 NAA Ford Tractor - 3/4 Rear View

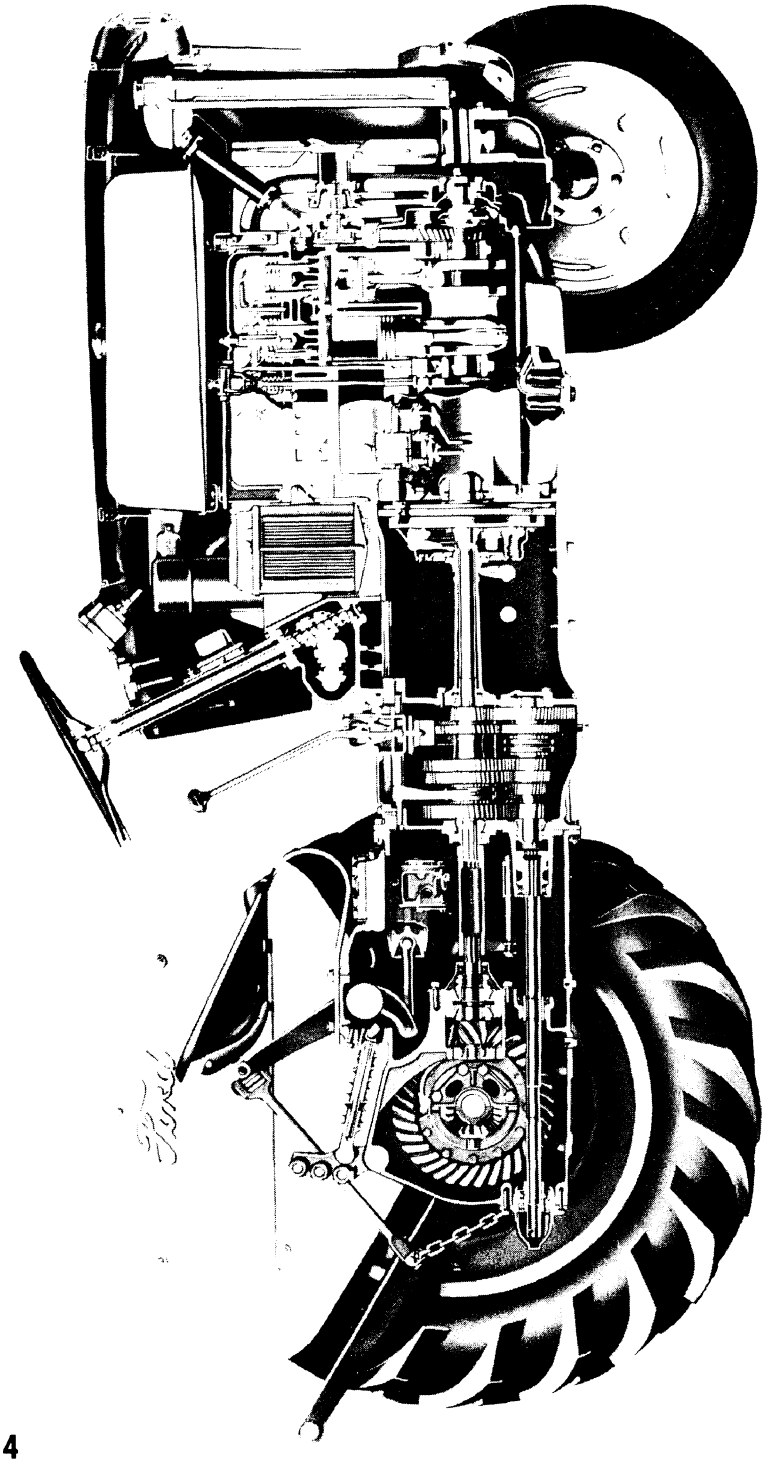

Figure 3 NAA Ford Tractor - Sectional View

1

GENERAL DESCRIPTION AND SPECIFICATIONS

The Model NAA Ford tractor is of the four wheel type and is powered by an overhead valve four cycle, four cylinder gasoline engine.

The adjustable front axle provides front wheel tread spacings to meet various field crop work conditions. Rear wheel tread is also adjustable by changing the position of the steel disks and the rims.

The conventional heavy duty, single plate, dry disc clutch provides the means of engaging or disengaging the engine power from the transmission.

In various types of field work and under heavy loading conditions, it is necessary to have various engine speeds in relation to tractor speed. This is accomplished by manually selecting the correct reduction gearing in the four forward speed constant mesh type transmission before the tractor is set in motion.

The rear axle is supported by tapered roller bearings at each wheel and is of the semi-floating type. Final drive incorporates heavy duty spiral bevel gears and a four pinion differential. The differential is the mechanism that equalizes power at the rear wheels by permitting one wheel to turn faster or slower than the other.

Each rear wheel is equipped with mechanically operated internal expanding, self energizing type brakes, independently operated.

The hydraulic system incorporates design features that assure dependability and positive control of implements. The externally mounted hydraulic pump is driven by a gear on rear of engine camshaft. This pump keeps the system supplied with oil to assure instant control of implements after setting the selector and touch control levers.

The power take-off lever is located on the left side of the center housing. This is used to engage or disengage the power take-off from the transmission shaft. The power take-off shaft, in turn, provides a drive for implements and a belt pulley is available at extra cost.

A. GENERAL SPECIFICATIONS

Type	4 Wheel general purpose
Wheelbase	73 7/8 inches at 48" tread
Over-all length, front to drawbar	118 7/8 inches
Over-all height	57 1/4 inches
Over-all width, normal tread	64 3/4 inches
Tire size:	
Front-standard	4-19- 4 ply or 4.00 X 19 - 4 ply or 5.50 X 16 - 4 ply extra cost
Rear-standard	10 X 28
Front tread	48 to 76 inches
Rear tread	48 to 76 inches
Ground Clearance:	
Front axle	21 inches
Rear axle	21 inches
Center	13 inches
Turning circle radius (with use of brakes)	
Made by outer front wheel	8 ft. 10 in.
Made by centerline of tractor at rear axle	3 ft. 8 in.
Shipping weight (including oil, water, tires, -less gas)	2550 lbs.
Drawbar height	8 1/2 in. to 34 1/4 in. 18 in. std. setting

B. CAPACITIES - U.S. MEASURE

Fuel Tank	11 gallons total-1 3/4 gallons reserve
Engine Oil Pan (less filter absorption)	5 qts. with filter add extra qt.
Transmission	5 qts.
Hydraulic lift	8.0 qts.
Differential	8.5 qts.
Cooling system	15 qts.
Oil bath air cleaner	1.3 pints
Belt pulley Assy.	0.9 pints
Tire pressure:	P.S.I.
10-28 4-ply	12
4-19 4-ply	28
5.50-16 4-ply	28

C. ENGINE

Type	4 Cylinder, in-line, overhead valve

C. ENGINE (Con't)

Rated speeds	1500 R. P. M. with P. T. O. driven implements so as to obtain 545 R. P. M. at P. T. O.
Refer to Page 10 for Belt and Pulley Speeds	1750 R. P. M. without P. T. O. driven implements
Idle speed	450-475 R. P. M.
Cylinder bore	3. 4375 in.
Stroke	3. 60 in.
Piston displacement	134 cu. in.
Torque	110 ft. lbs. at 1400 R. P. M. - Engine without accessories
Compression ratio	6. 6 to 1
Sleeves	Centrifugally cast alloy iron, dry type
Piston	Autothermic, cam ground, aluminum alloy
Rings:	
Compression	2 - cast iron - top, chrome plated
Oil	1 - cast iron
Piston pins	Floating
Rod Bearings	Replaceable steel backed inserts
Main Bearings	Replaceable steel backed inserts
Crankshaft	Precision moulded alloy iron, statically & dynamically balanced.
Compression pressure at cranking speed	(sea level) 120-125 P. S. I. at cranking speed (Minimum)

D. IGNITION SYSTEM

Type	Battery
Distributor:	
Firing order	1-2-4-3
Drive	Helical gear off camshaft
Automatic spark advance	Centrifugal
Initial timing (degrees of crankshaft)	8^{o} BTDC at 475 R. P. M.
Maximum advance (degrees of crankshaft)	29^{o} to 31^{o}
Distributor breaker cam	4 lobe
Breaker contacts	1 set
Breaker contact spacings	. 024 to . 026
Spark Plugs:	
Type	H-10

D. IGNITION SYSTEM (Con't)

Size	14 mm
Gap	.025 - .028

E. CARBURETOR

Type	Single up-draft
Idle fuel adjustment	1 turn open
Main fuel jet adjustment	1 1/4 turn open
Idle speed adjustment	Screw on throttle shaft

F. GOVERNOR

Type	Variable Speed Centrifugal Fly-ball Mounted Direct to Crankshaft
Governed speed range	800 - 2200 R. P. M. No Load
Maximum governed speed adjustment	Stop clamp on throttle rod

G. COOLING SYSTEM

Radiator cap	Pressure type
Pressure valve opens	3.5 to 4.5 P. S. I.
Vacuum valve opens	1 P. S. I.
Capacity	15 qts.
Water pump:	
Type	Centrifugal
Drive	V-belt
Coolant flow	20 gal. per minute at 170°F. at 2000 R. P. M.
Fan:	
Type	4 blade unequal spacing pull
Drive	Same belt drives water pump and generator
Thermostat:	
Location	Engine water outlet
Starts to open	157-162 deg. F.
Fully open	177-182 deg. F.

H. ELECTRICAL SYSTEM

Generator:	
Type	2 brush shunt
Drive	V-belt
Rating:	
1650 R. P. M. (hot)	20 amps

H. ELECTRICAL SYSTEM (Con't)

Maximum output	20 amps
Capacity	160 watts
Generator regulator:	
Cutout closing voltage	6.0 - 6.6 volts
Voltage limiter	7.1 - 7.5 volts
Cutout opening current (Reverse)	6 amps. max.
Battery:	
Type	6 volt
Number of plates (per cell)	13
Capacity in ampere hours	80
Terminal grounded	Positive
Starting motor:	
Type	6 volt
Drive	Follow Through Type

I. TRANSMISSION

Type	Constant Mesh
Number of speeds forward	4

Without Slip Axle Gear Ratio (6.66)	Trans-mission	Total Gear Reduction (Over all)	Speed in M. P. H. 1500 RPM	1750 RPM	2000 RPM
1. Low (first)	11.00 to 1	73.33 to 1	2.68	3.13	3.58
2. Plowing (second)	8.55 to 1	57.04 to 1	3.45	4.02	4.60
3. Cultivating (third)	6.21 to 1	41.45 to 1	4.75	5.54	6.33
4. High (fourth)	2.98 to 1	19.86 to 1	9.9	11.55	13.2
5. Reverse	10.04 to 1	66.8 to 1	2.96	3.45	3.96

J. CLUTCH

Type	Single plate
Release bearing (pre-lubricated)	Ball bearing
Pedal free travel	3/4 inch

K. REAR AXLE

Type	Semi-floating
Ratio	6.66 to 1

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