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Ford 861

Ford 861 Tractor Service Manual (1958-1962)

Detailed Instructions for Maintenance and Repair

INTRODUCTION

This service manual provides comprehensive technical information and step-by-step procedures for the maintenance, repair, and overhaul of Ford 861 series tractors manufactured between 1958 and 1962. It is designed for mechanics and owners seeking to perform service operations correctly and efficiently, ensuring the longevity and optimal performance of the tractor.

Refer to the specific sections for detailed instructions on various components and systems.

GENERAL INFORMATION

This manual covers the Ford 861 tractor models produced from 1958 to 1962. It is crucial to identify your specific tractor model and year to ensure you are following the correct procedures. Always prioritize safety by reading all warnings and precautions before beginning any service work.

ENGINE REMOVAL AND INSTALLATION

This section details the procedures for safely removing and installing the engine assembly. Proper execution of these steps is critical for preventing damage to the engine or surrounding components.

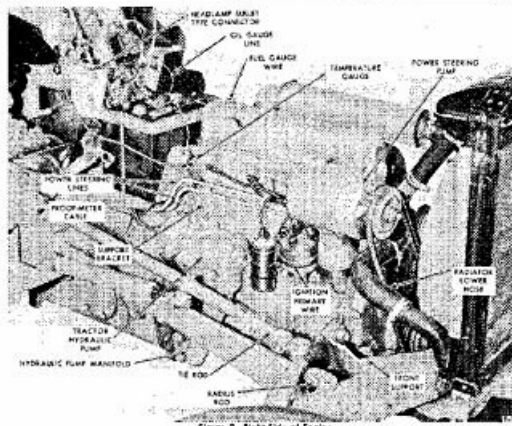


Figure 3—Right Side of Engine

7. On a tractor equipped with power steering, disconnect the adjusting link from the pump. Remove the two bolts that attach the muffler outlet pipe front support to the fuel tank front support bracket.
8. Turn the fuel tank shut-off valve clockwise as far as possible to close it. Disconnect the fuel line from the tank and from the fuel filter. Disconnect the excess fuel return line from the forward end of the fuel tank and from the "T" connection on the right side of the cylinder block.
9. Place a piece of wood across the top of the battery to prevent the fuel tank from accidentally contacting the battery posts. Remove nut and lock washer that attaches the fuel tank front support to the cylinder block. Remove the front fuel tank support attaching bolts. With an assistant, carefully lift the fuel tank and support brackets from the tractor.
10. Remove the battery from the battery tray.

C. Series 601-901 Gasoline Engine

1. Disconnect the battery ground strap.
2. Drain the radiator, cylinder block, crankcase and the hydraulic system.
3. On tractors equipped with a Select-O-Speed transmission, carefully drive the roll pin out of the P.T.O. control handle as shown in Figure 4. Remove the handle nut and washer that attaches the control cable housing to the right rear side of the hood.
4. Disconnect the buffer connector adjacent to the

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Figure 1: Engine Removal and Installation - Right Side View. This image displays a page from the service manual, specifically Section 1, covering engine removal and installation for Series 501 through 901. It includes a detailed diagram labeled 'Figure 3 - Right Side of Engine', illustrating various components such as power steering, hydraulic pump, radiator hose, and fuel lines, along with numbered steps for disconnection and removal.

General Steps for Engine Removal:

1. Disconnect the battery ground strap to prevent electrical hazards.
2. Drain the radiator, cylinder block, and crankcase fluids.
3. Disconnect all hydraulic lines, fuel lines, and electrical connections leading to the engine.
4. Remove mounting bolts and carefully lift the engine using appropriate lifting equipment.

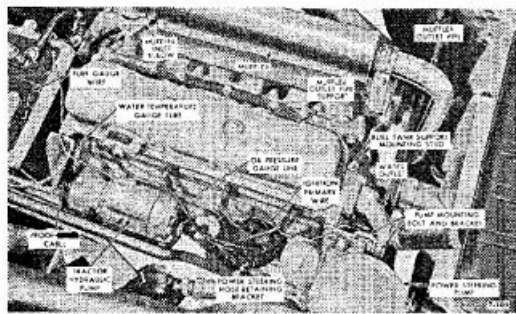


Figure 6—Top View of Engine

9. Disconnect the radiator hoses from the water outlet and from the water pump.
10. Disconnect the water temperature gauge tube from the right side of the cylinder block, see Figure 6.
11. Remove the five right side rail bracket attaching bolts and remove the bracket.
12. Place a drain pan below the hydraulic pump and manifold. Remove the five attaching bolts and washers from the pump and manifold. Carefully pry the hydraulic tubing away from the engine just enough to provide clearance for the hydraulic pump and manifold. Disconnect the oil pressure gauge line from the fitting in the cylinder block.

Tractor With Loader:

- a. Remove the three bolts and lock washers that attach the control valve to the control valve support, see Figure 7. Remove the two bolts and lock washers that attach the control valve support to the cylinder block. Remove the "U" clamp that attaches the support to the line tube mounting bracket and remove the support.
- b. Remove the two bolts, nuts and lock washers that attach the right suspension brace to the transmission and the loader frame. Manipulate the brace to free it from the transmission. It is not necessary to remove the brace from the control handles.

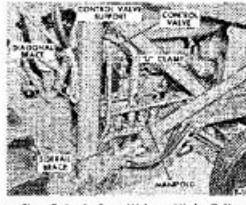


Figure 7—Loader Control Valve and Hydraulic Lines

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Figure 2: Engine Removal and Installation - Top View. This image shows a page from Section 2 of the manual, focusing on engine removal and installation for Series 1801. It features 'Figure 6 - Top View of Engine' detailing components like the air cleaner, fuel lines, and radiator hoses. Additionally, 'Figure 7 - Loader Control Valve and Hydraulic Lines' provides a diagram and instructions for servicing the loader control valve, including steps for disconnecting and removing associated bolts and lines.

Specific Disconnection Points (Series 1801 Example):

- Disconnect the radiator hoses from the water outlet and water pump.
- Remove the temperature gauge tube from the right side of the cylinder block.
- Remove the five right side rail bracket attaching bolts and washers.
- For tractors with loaders, remove the three bolts and lock washers that attach the control valve to the control valve support.

ENGINE COMPONENTS AND MAINTENANCE

This chapter provides detailed information on various engine components, including their assembly, disassembly, cleaning, and inspection procedures.

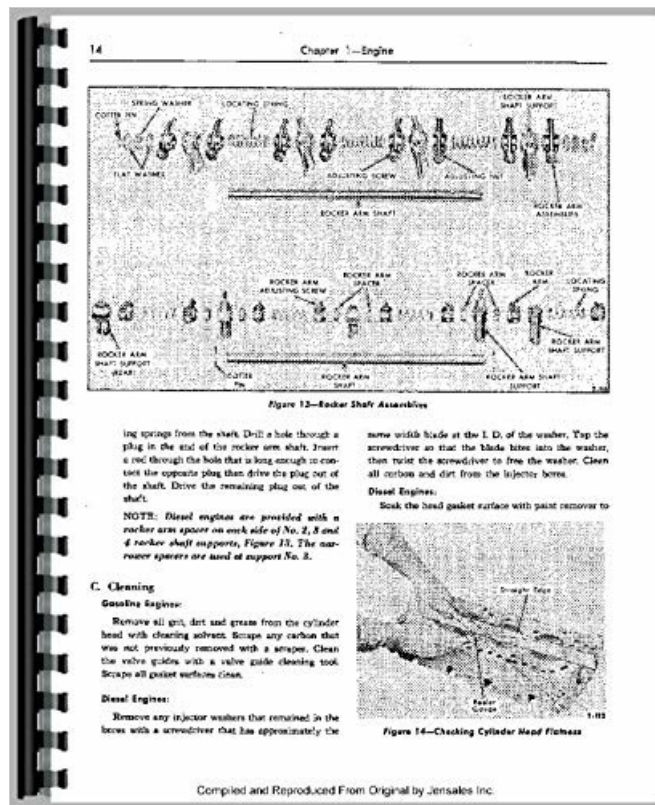


Figure 3: Engine Components - Rocker Shaft and Cylinder Head. This image illustrates a page from Chapter 1 - Engine. It features 'Figure 12 - Rocker Shaft Assemblies', showing an exploded view of the rocker arm shaft, springs, and related components. Below this, 'Figure 14 - Checking Cylinder Head Flatness' provides a visual guide for inspecting the cylinder head surface, along with text instructions for cleaning engine components for both gasoline and diesel engines, and specific steps for rocker arm shaft disassembly and assembly.

Rocker Shaft Assemblies:

- Disassembly involves removing cotter pins, flat washers, and locating screws to slide components off the shaft.
- During assembly, ensure proper orientation of rocker arms and springs, securing them with locating screws and cotter pins.

Cleaning Engine Components:

- **Gasoline Engines:** Remove all grit, dirt, and grease from the cylinder head with cleaning solvent. Scrape any carbon that was not previously removed with a scraper. Clean valve guides with a valve guide cleaning tool.
- **Diesel Engines:** Remove any injector washers that remained in the bores with a screwdriver.

Checking Cylinder Head Flatness:

Inspect the cylinder head surface for warpage using a straight edge and feeler gauges. Refer to specifications for acceptable flatness tolerances. Resurface if necessary.

HYDRAULIC SYSTEM OVERVIEW

The hydraulic system, particularly the loader control valve and associated lines, requires careful attention during service. This section provides guidance on inspecting and servicing these critical components.

Loader Control Valve and Hydraulic Lines:

- Inspect all hydraulic lines for leaks, cracks, or damage. Replace any compromised lines immediately.
- Ensure the loader control valve operates smoothly and without excessive play. Refer to the manual for specific adjustment or repair procedures.
- When servicing, ensure the hydraulic system is depressurized to prevent injury.

SPECIFICATIONS

Key specifications for this service manual are provided below:

- **ASIN:** B07J63FVNG
- **Publisher:** Jensales
- **Language:** English
- **Dimensions:** 12 x 10 x 3 inches

SAFETY PRECAUTIONS

Always observe the following safety precautions when performing any service or maintenance on the tractor:

- Wear appropriate personal protective equipment (PPE), including safety glasses, gloves, and sturdy footwear.
- Ensure the tractor is on a level surface and properly secured to prevent accidental movement.
- Disconnect the battery before working on electrical components.
- Allow the engine and hydraulic systems to cool down before servicing to avoid burns.
- Use proper lifting equipment and stands when working under the tractor.
- Never work under a tractor supported only by a jack.
- Be aware of pinch points and moving parts.
- Dispose of fluids and hazardous materials responsibly.

PRE-SERVICE PREPARATION

Before commencing any service procedure, ensure the following preparatory steps are taken:

- Gather all necessary tools and replacement parts.
- Clean the work area and the exterior of the tractor to prevent contamination.
- Review the relevant sections of this manual thoroughly before starting.
- Ensure adequate lighting and ventilation in your workspace.

GENERAL MAINTENANCE GUIDELINES

Regular maintenance is essential for the reliable operation and longevity of your Ford 861 tractor. Adhere to the manufacturer's recommended service intervals and procedures outlined in this manual.

- Perform routine fluid checks and changes (engine oil, hydraulic fluid, coolant).
- Inspect and replace filters (oil, fuel, air, hydraulic) as scheduled.
- Lubricate all grease points regularly.
- Check tire pressure and condition.

- Inspect belts and hoses for wear or damage.
- Ensure all lights and safety devices are functional.

TROUBLESHOOTING COMMON ISSUES

This section provides a general approach to diagnosing common operational problems. For specific diagnostic charts and repair steps, refer to the detailed sections within this manual.

- **Engine Cranks but Won't Start:** Check fuel supply, ignition system, and compression.
- **Loss of Hydraulic Power:** Inspect hydraulic fluid level, pump, and control valve.
- **Overheating:** Check coolant level, radiator, thermostat, and fan belt.
- **Unusual Noises:** Pinpoint the source of the noise and investigate associated components for wear or damage.

WARRANTY AND SUPPORT

Information regarding the warranty for this specific service manual is not provided within the product details. For any inquiries related to the manual itself, please contact the publisher, Jentsales.

For warranty information or technical support pertaining to the Ford 861 tractor, please refer to the original manufacturer's documentation or contact an authorized Ford service center for vintage tractors.