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> AgPubs Ford Tractor Service and Parts Manual Set (Models Tw5, Tw15, Tw25, Tw35)

AgPubs Tw5 Tw15 Tw25 Tw35

AgPubs Ford Tractor Manual Set: Tw5, Tw15, Tw25, Tw35

Service, Parts Catalog, and Operator's Information

INTRODUCTION TO YOUR MANUAL SET

This manual set provides essential information for the maintenance, repair, and operation of Ford Tw5, Tw15, Tw25, and Tw35 series tractors. It is designed to assist owners, operators, and service technicians in understanding the various systems and procedures required to keep these tractors in optimal working condition.

The set typically includes three types of manuals, each serving a distinct purpose:

- **Service Manual:** Focuses on repair, overhaul, and troubleshooting procedures.
- **Operator's Manual:** Covers basic maintenance, operational guidelines, fluid types, quantities, and adjustments.
- **Parts Catalog:** Provides exploded views, part names, and factory (OEM) part numbers for identification and ordering.

UNDERSTANDING MANUAL TYPES

To effectively use this manual set, it is important to select the correct manual based on your specific needs. Each manual type offers detailed information tailored to different tasks.

Service Manual

The Service Manual is your primary resource for in-depth repairs and system overhauls. It contains detailed instructions, specifications, and diagnostic procedures for complex issues. This manual is crucial for addressing mechanical failures, performing engine rebuilds, or troubleshooting electrical problems.

Operator's Manual

The Operator's Manual is intended for daily use and routine maintenance. It provides guidance on safe operation, recommended service intervals, fluid capacities, and basic adjustments. Refer to this manual for information on starting procedures, control functions, and general care to ensure longevity and performance of your tractor.

Parts Catalog

The Parts Catalog is indispensable for identifying and ordering replacement components. It features exploded diagrams that illustrate how various assemblies fit together, along with corresponding part numbers. This ensures you can accurately identify and procure the correct OEM parts for your Ford tractor.

SERVICE MANUAL CONTENT OVERVIEW (VOLUME 1)

Volume 1 of the Service Manual covers fundamental systems and components of the Ford Tw5, Tw15, Tw25, and Tw35 tractors. Key sections include:

- **Specifications:** Detailed technical data for various tractor components.
- **Engine Systems:** Information on engine operation, maintenance, and repair.
- **Fuel System:** Diagrams and procedures for fuel delivery and injection.
- **Electrical System:** Wiring diagrams, component locations, and troubleshooting for electrical circuits.
- **Clutches:** Adjustment and repair procedures for clutch mechanisms.
- **Transmission System:** Details on gear identification, power flow, and hydraulic controls.
- **Power Take-Off (PTO):** Maintenance and repair of the PTO system.

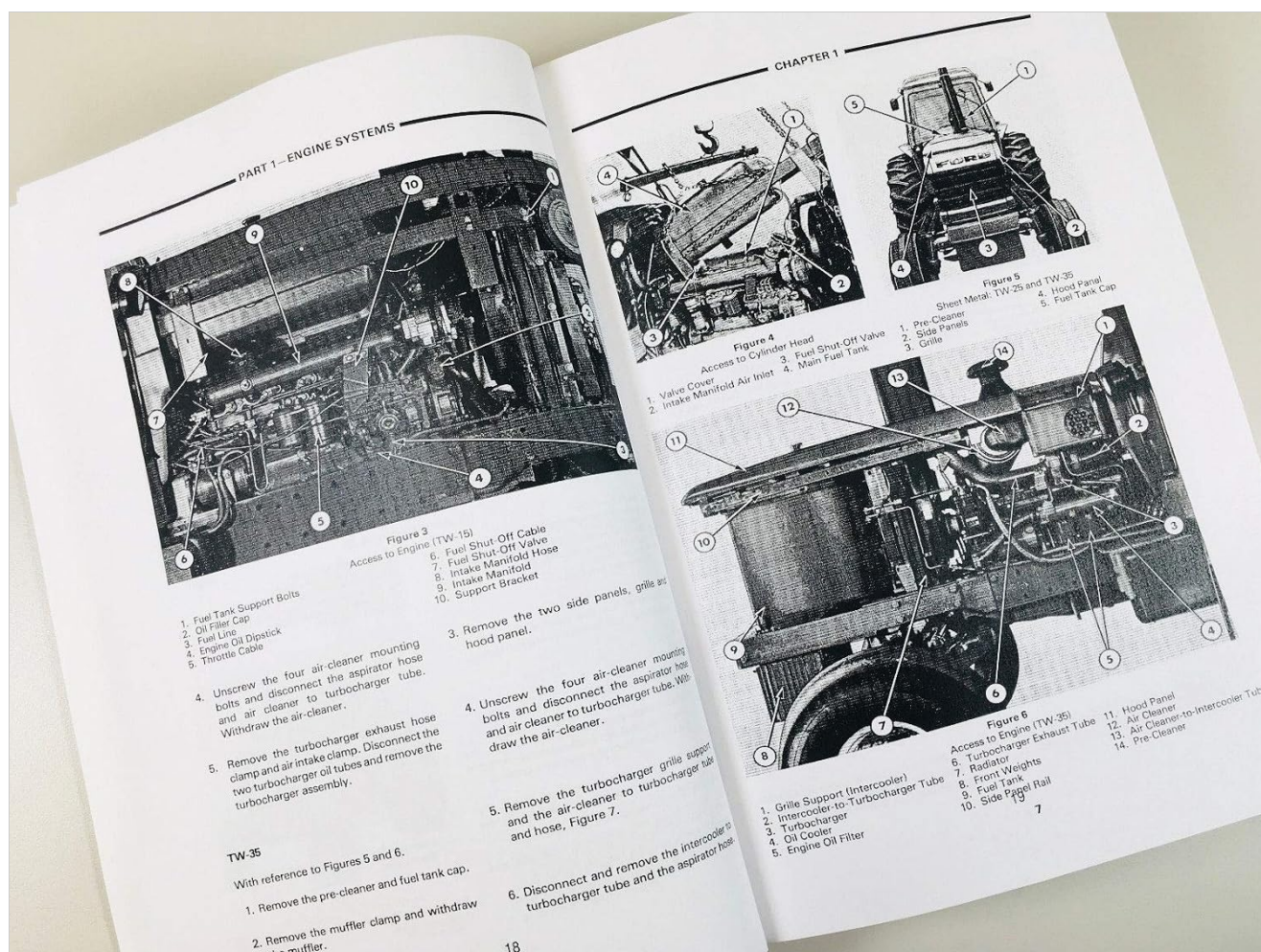


Figure 1: Index of Service Manual Volume 1. This image displays the table of contents for the first volume, listing major sections such as Specifications, Engine Systems, Fuel System, Electrical System, Clutches, Transmission System, and Power Take-Off, along with their starting page numbers.

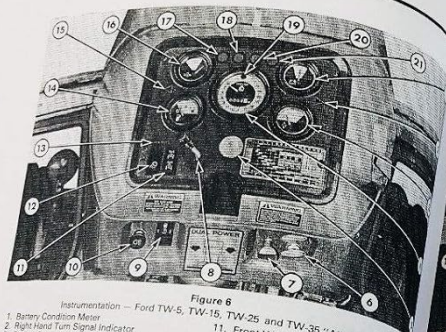


Figure 6
Instrumentation — Ford TW-5, TW-15, TW-25 and TW-35 "A" Prefix

1. Battery Condition Meter
2. Right Hand Turn Signal Indicator
3. Engine Coolant Temperature Gauge
4. Tachometer
5. Hazard Warning Light Switch
6. Key Start Switch
7. Engine Stop Control
8. Multi-Function Switch:
Turn Signal, Horn, Headlight Main Beam,
Dipped Beam and Flash
9. Fuel Tank Sender Switch
10. Light Switch
11. Front Wheel Drive Switch
12. Plough Lamp Switch
13. Trailer Warning Lights
14. Fuel Gauge
15. Left Hand Turn Signal Indicator
16. Engine Oil Pressure Gauge
17. Air Cleaner Restriction Warning Light
18. Transmission Oil Pressure Warning Light
19. Main Beam Warning Light
20. Dual Power Indicator Light (Hare)
21. Dual Power Indicator Light (Tortoise)

FUEL GAUGE CHANGEOVER SWITCH

The fuel gauge registers the contents of both the upper and auxiliary fuel tanks separately by the operation of a selector switch, situated on the left-hand side of the control console. When the switch is in position '1' the upper fuel tank level is registered and in position '2' the auxiliary fuel tank level is indicated.

NOTE: When the key-start is turned off the gauge needle assumes a random position and may well indicate a fuel level in excess of the true level. Always take fuel level readings with the key-start switch turned on.

INSTRUMENTATION

The instrument cluster gauges, warning lights and controls are shown in Figures 6 and 7.

The tractors feature air-core type gauges which are not sensitive to fluctuation in system voltage.

All the gauges are illuminated by panel light when the tractor lights are operated.

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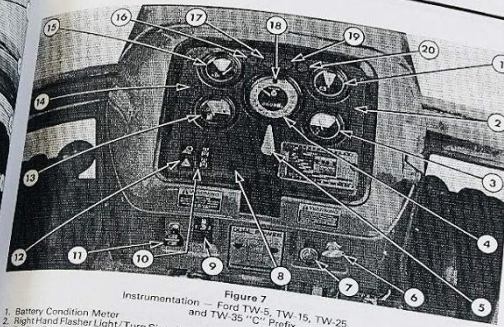


Figure 7
Instrumentation — Ford TW-5, TW-15, TW-25, and TW-35 "C" Prefix

1. Battery Condition Meter
2. Right Hand Flasher Light/Turn Signal Indicator
3. Engine Coolant Temperature Gauge
4. Prodigometer
5. Turn Signal Switch
6. Key Start Switch
7. Engine Stop Control
8. Horn Button (where fitted)
9. Fuel Tank Sender Switch
10. Front Wheel Drive Switch
11. Headlight Switch
12. Flasher Light/Work Light Switch
13. Fuel Gauge
14. Left Hand Flasher Light/Turn Signal Indicator
15. Engine Oil Pressure Gauge
16. Air Cleaner Restriction Warning Light
17. Transmission Oil Pressure Warning Light
18. Headlamp High Beam Indicator Light
19. Dual Power Indicator Light (Hare)
20. Dual Power Indicator Light (Tortoise)

Ignition Load Relay

All Ford Tractors with cabs incorporate an ignition load relay to protect the key-start switch from the high loads imposed by the unique cab items such as the heater blower and windshield wiper motors.

When the key-start switch is actuated the restriction warning light is illuminated.

DIODES

The air cleaner restriction warning light circuit is interconnected by a diode. This system provides a check facility for the warning bulb.

Once the engine has started the warning light is extinguished provided that no restriction exists in the air cleaner.

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Figure 2: Engine Systems Overview. This image shows detailed diagrams from Chapter 1, Part 1 (Engine Systems), illustrating components like the engine, air cleaner, and turbocharger assembly, with numbered callouts for identification.

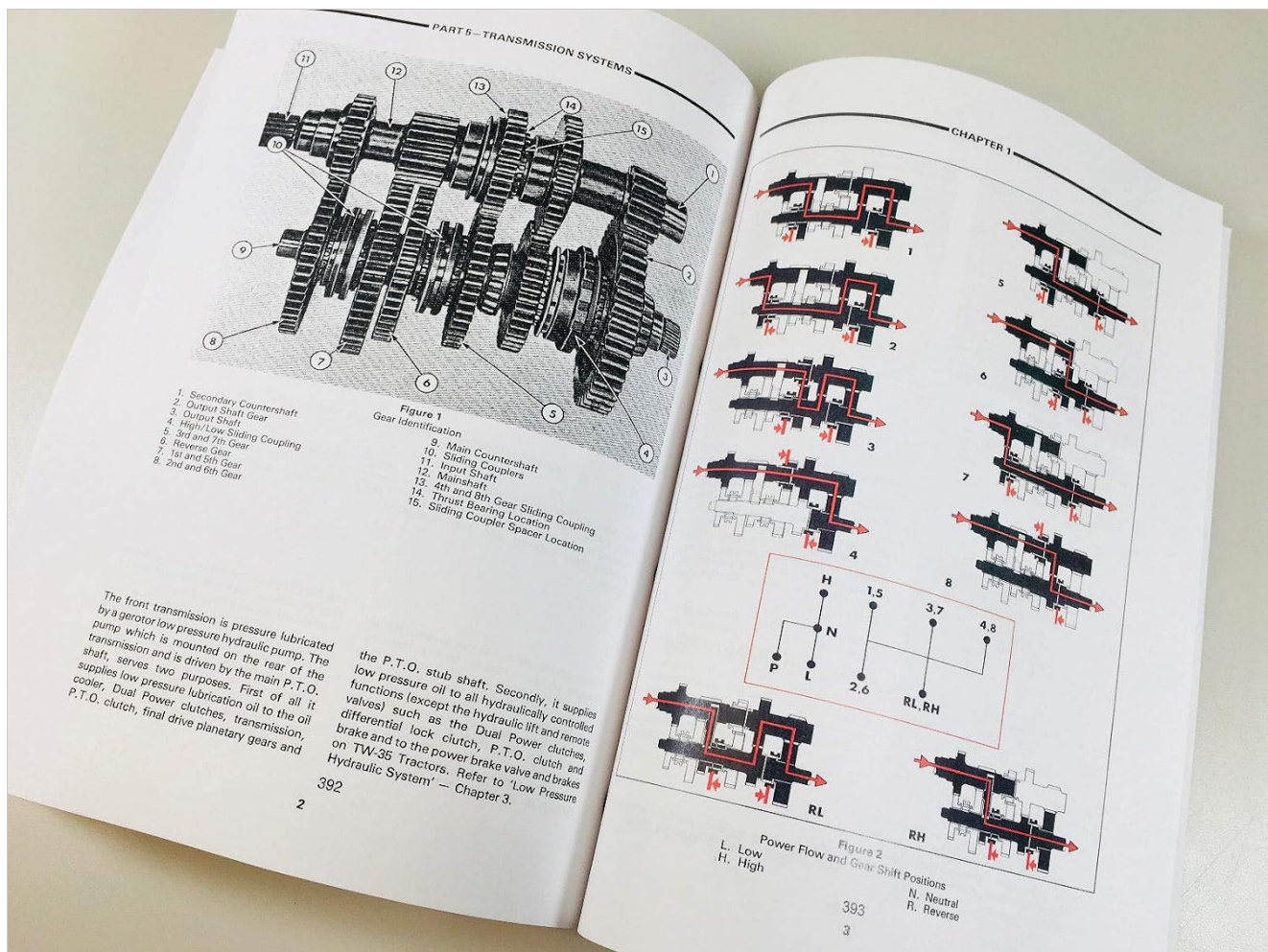


Figure 3: Electrical System Instrumentation. This image presents diagrams from Chapter 1, Part 3 (Electrical Systems), detailing the tractor's instrumentation panel, ignition load relay, and air cleaner restriction warning light system, with numbered components.

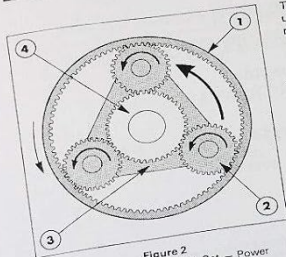


Figure 2
Dual Power Planetary Gear Set — Power Underdrive Operation

1. Ring Gear
2. Pinion
3. Planetary Carrier
4. Sun Gear

Power Underdrive

With reference to Figure 2.

Compressing the underdrive clutch plate, locks the sun gear to the planetary housing. Applying power to the ring gear forces the pinions to rotate on their own axes and 'walk' around the sun gear, taking the planetary gear with them. The planetary carrier is the same member of the system but at a lower speed direction as the ring gear but at a lower speed with a resultant increase in torque. This condition produces a power underdrive.

The Dual Power transmission is operated by a two-position control valve, located on the side of the planetary gear set housing, which directs oil from the low pressure hydraulic system pump to engage either the direct drive or the underdrive clutch assembly. The oil pressure is controlled by the low pressure hydraulic system regulating valve located on the right-hand side of the transmission.

The ground speeds in normal direct drive are unchanged from the previous 8-speed transmission ground speeds.

The Dual Power transmission ratios and corresponding gear shift lever positions are shown on Page 15, 'Specifications' - Chapter 4.

Oil Flow to the Direct Drive Clutch

With reference to Figure 3.

The control valve, which has no neutral position, is moved by means of a solenoid-operated pilot valve. The solenoid is controlled by a floor mounted, foot operated switch.

When the Dual Power control switch is depressed to the normal (direct drive) position, electric current flows to the control valve solenoid and so energises the solenoid coil.

The effect of energising the solenoid is to close the pilot valve thereby preventing the oil supplied at port 'A' from acting on the top of the control valve. Supply oil can however still pass through the centre of the control valve and act under the control valve spool.

The hydraulic pressure acting under the control valve lifts the spool upwards, directing supply oil between the lands to the gallery drilled in the planetary housing which connects with the gap between the second and third sealing rings on the direct drive clutch hub. The drilled passage in the clutch hub allows the oil sealing rings in the clutch hub to allow the oil to act behind the direct drive clutch piston. The pressure moves the piston, compresses the piston spring and locks the direct drive clutch plates together so engaging the direct drive clutch.

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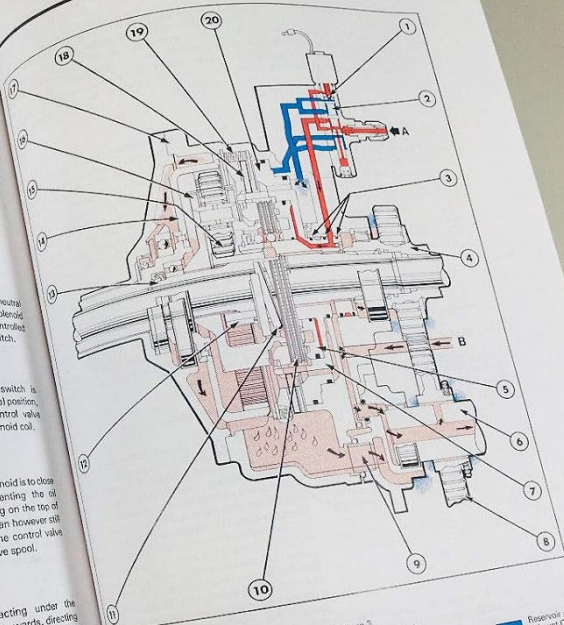


Figure 3
Oil Flow to Direct Drive Clutch

- 1. Pilot Valve
- 2. Control Valve Spool
- 3. Sealing Rings
- 4. Transmission Mainshaft
- 5. Direct Drive Clutch Piston
- 6. Transmission Countershaft
- 7. Direct Drive Clutch Housing

- 8. 2nd and 6th Gear
- 9. Lubrication Oil Tube
- 10. Direct Drive Clutch Plates
- 11. Direct Drive Clutch Piston Return Spring
- 12. Sun Gear
- 13. Centre Shaft
- 14. Ring Gear and Input Shaft

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- 15. Pinion
- 16. Planetary Carrier
- 17. Planetary Housing
- 18. Underdrive Clutch Plate
- 19. Return Springs
- 20. Underdrive Clutch Piston

Figure 4: Transmission System Details. This image illustrates diagrams from Chapter 1, Part 5 (Transmission Systems), focusing on gear identification and the power flow and gear shift positions within the tractor's transmission.

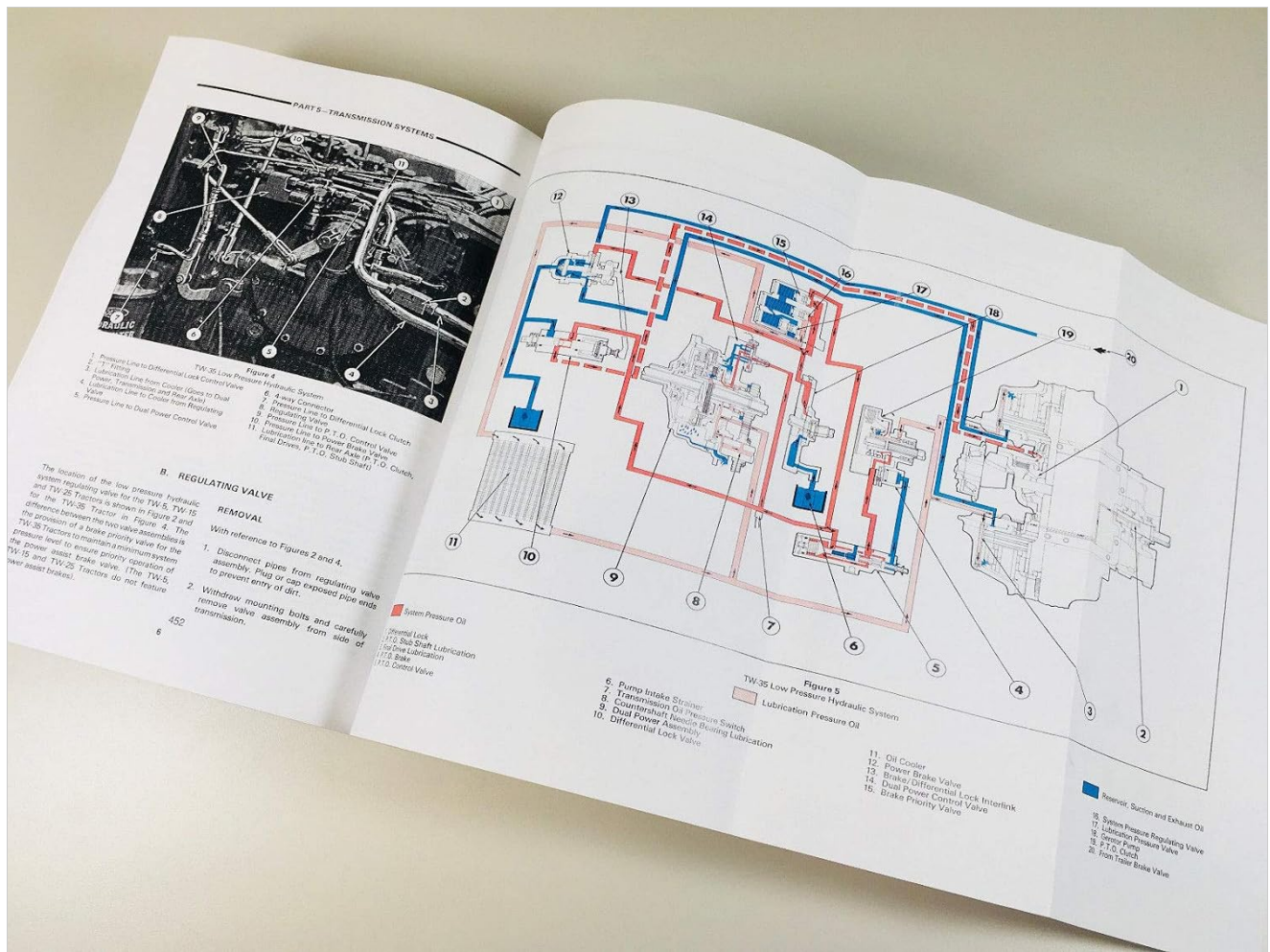


Figure 5: Dual Power and Clutch Oil Flow. This image shows diagrams from Chapter 2, Part 5 (Transmission Systems), detailing the dual power planetary gear set and the oil flow to the direct drive clutch, crucial for understanding transmission operation.

Index Volume 2

3	Rear Axle and Brakes
49	Hydraulic System
207	Steering System
239	Front Axle
351	Ford Tractor Safety Cabs and Platforms
379	Separating The Tractor
397	Accessories and General

Figure 6: Transmission Hydraulic System. This image displays diagrams from Part 5 (Transmission Systems), illustrating the hydraulic system and lubrication pressure circuits, including the regulating valve and removal procedures.

SERVICE MANUAL CONTENT OVERVIEW (VOLUME 2)

Volume 2 of the Service Manual expands on additional critical systems and components, providing comprehensive repair and maintenance information for the Ford Tw5, Tw15, Tw25, and Tw35 tractors. Key sections include:

- **Rear Axle and Brakes:** Detailed procedures for servicing the rear axle assembly and braking system.

- **Hydraulic System:** In-depth information on the tractor's hydraulic circuits, components, and troubleshooting.
- **Steering System:** Repair and adjustment guidelines for the steering mechanism.
- **Front Axle:** Maintenance and service instructions for the front axle assembly.
- **Ford Tractor Safety Cabs and Platforms:** Information related to the structural integrity and safety features of the operator's environment.
- **Separating The Tractor:** Procedures for safely disassembling and reassembling major tractor sections.
- **Accessories and General:** Information on various tractor accessories and general service topics.

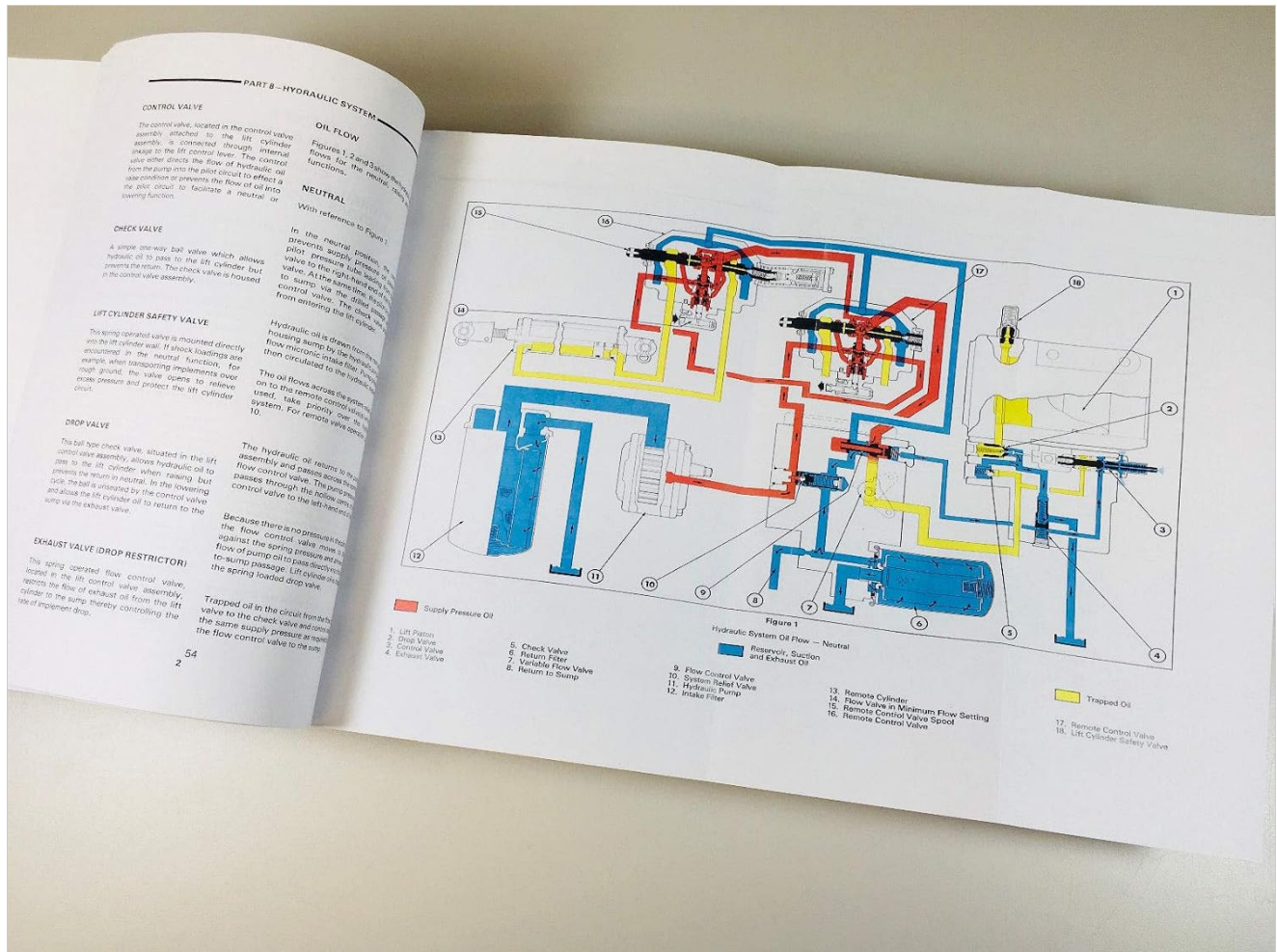


Figure 7: Index of Service Manual Volume 2. This image displays the table of contents for the second volume, listing major sections such as Rear Axle and Brakes, Hydraulic System, Steering System, Front Axle, Ford Tractor Safety Cabs and Platforms, Separating The Tractor, and Accessories and General, along with their starting page numbers.

SETUP AND INITIAL USE OF MANUALS

To begin using your AgPubs Ford Tractor Manual Set:

1. **Identify Your Task:** Determine if you need to operate, maintain, repair, or identify parts for your tractor.
2. **Select the Correct Manual:** Choose the Service, Operator's, or Parts Catalog based on your task.
3. **Locate Relevant Section:** Use the index or table of contents within the chosen manual to find the specific topic.
4. **Review Safety Information:** Always read and understand all safety warnings and precautions before beginning any work.

OPERATING GUIDELINES (REFER TO OPERATOR'S MANUAL)

For detailed operating instructions, always consult the dedicated Operator's Manual. This manual will provide information on:

- Pre-operation checks and safety procedures.
- Starting and stopping the engine.
- Engaging and disengaging the Power Take-Off (PTO).
- Operating hydraulic systems and implements.
- Driving and maneuvering the tractor safely.
- Understanding dashboard indicators and controls.

MAINTENANCE PROCEDURES (REFER TO SERVICE AND OPERATOR'S MANUALS)

Regular maintenance is crucial for the longevity and performance of your Ford tractor. Both the Service Manual and Operator's Manual contain vital maintenance information:

- **Operator's Manual:** Provides schedules for routine checks, fluid level inspections, lubrication points, and basic adjustments.
- **Service Manual:** Offers detailed procedures for more complex maintenance tasks, such as filter replacements, brake adjustments, and system flushes.

Always adhere to the recommended service intervals and use specified fluids and parts to ensure proper functioning and to prevent premature wear.

TROUBLESHOOTING COMMON ISSUES (REFER TO SERVICE MANUAL)

When encountering operational problems, the Service Manual is your primary guide for troubleshooting. It typically includes:

- Diagnostic charts and flowcharts to pinpoint the cause of issues.
- Symptoms and potential remedies for various system failures (e.g., engine, electrical, hydraulic).
- Testing procedures for components and circuits.

For minor operational glitches, the Operator's Manual may also offer basic troubleshooting tips.

SPECIFICATIONS

Detailed specifications for the Ford Tw5, Tw15, Tw25, and Tw35 tractors, including engine displacement, power output, fluid capacities, and torque settings, are provided within the Service Manual. Refer to the 'Specifications' section in Volume 1 for precise technical data relevant to your tractor model.

WARRANTY AND SUPPORT INFORMATION

Information regarding product warranty and direct support contacts for this AgPubs manual set is not provided within the available product details. For any inquiries regarding the manual set itself, please refer to the seller or manufacturer's contact information provided at the point of purchase.

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