



MANUAL PREVIEW

Ford
Service Manual

Ferguson

Service Manual

purchase full manual at

JENSALES.COM

or Call 800-443-0625



THIS IS A MANUAL PRODUCED BY JENSALES INC. WITHOUT THE AUTHORIZATION OF
FORD OR IT'S SUCCESSORS. FORD AND IT'S SUCCESSORS
ARE NOT RESPONSIBLE FOR THE QUALITY OR ACCURACY OF THIS MANUAL.

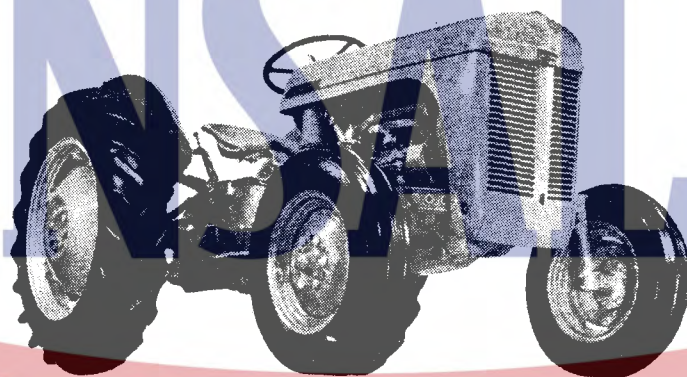
TRADE MARKS AND TRADE NAMES CONTAINED AND USED HEREIN ARE THOSE OF OTHERS,
AND ARE USED HERE IN A DESCRIPTIVE SENSE TO REFER TO THE PRODUCTS OF OTHERS.

FO-S-FERGUSON

CLICK ANYWHERE FOR MORE DETAILS

SERVICE

MANUAL



Ferguson

JENSALES.COM

or Call 800-443-0625

Harry Ferguson, Inc.

DETROIT, MICHIGAN

Harry Ferguson, Inc.

DETROIT, MICHIGAN

TE 9-1
Section No.

TRACTOR SERVICE INFORMATION

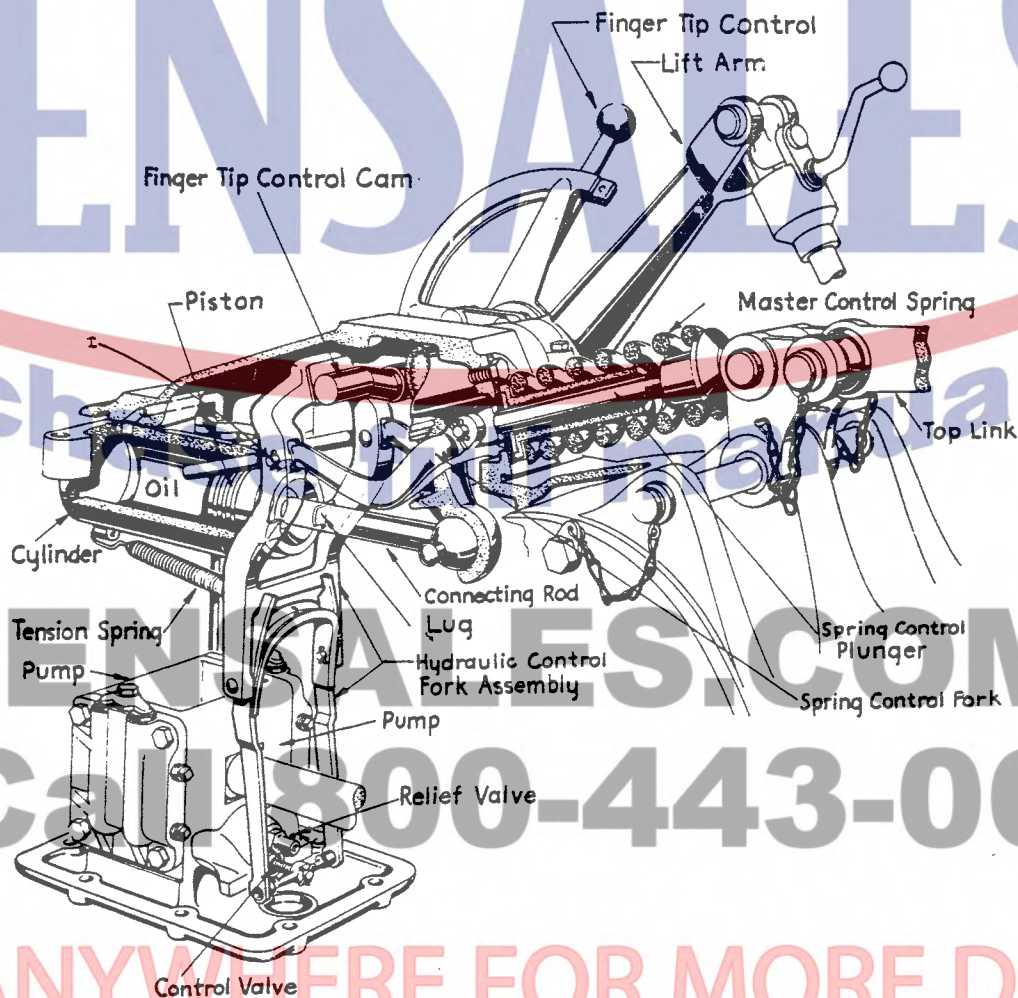
Date _____

Section FERGUSON SYSTEM

GENERAL

The Ferguson System is the mechanical brain which controls the implement. It is the outstanding feature that makes the Ferguson Tractor so radically different from all other tractors.

The Ferguson System consists of the following parts: hydraulic pump, ram cylinder, lift arms, lower links, top link, control spring, finger tip control lever and control forks. These are illustrated on the sketch below and will be explained in detail in the following sections.



Dealers: Please assemble in loose leaf binder. New issues will either supplement or replace older Bulletins.

CLICK ANYWHERE FOR MORE DETAILS

MANUAL PREVIEW

JENSALES[®]

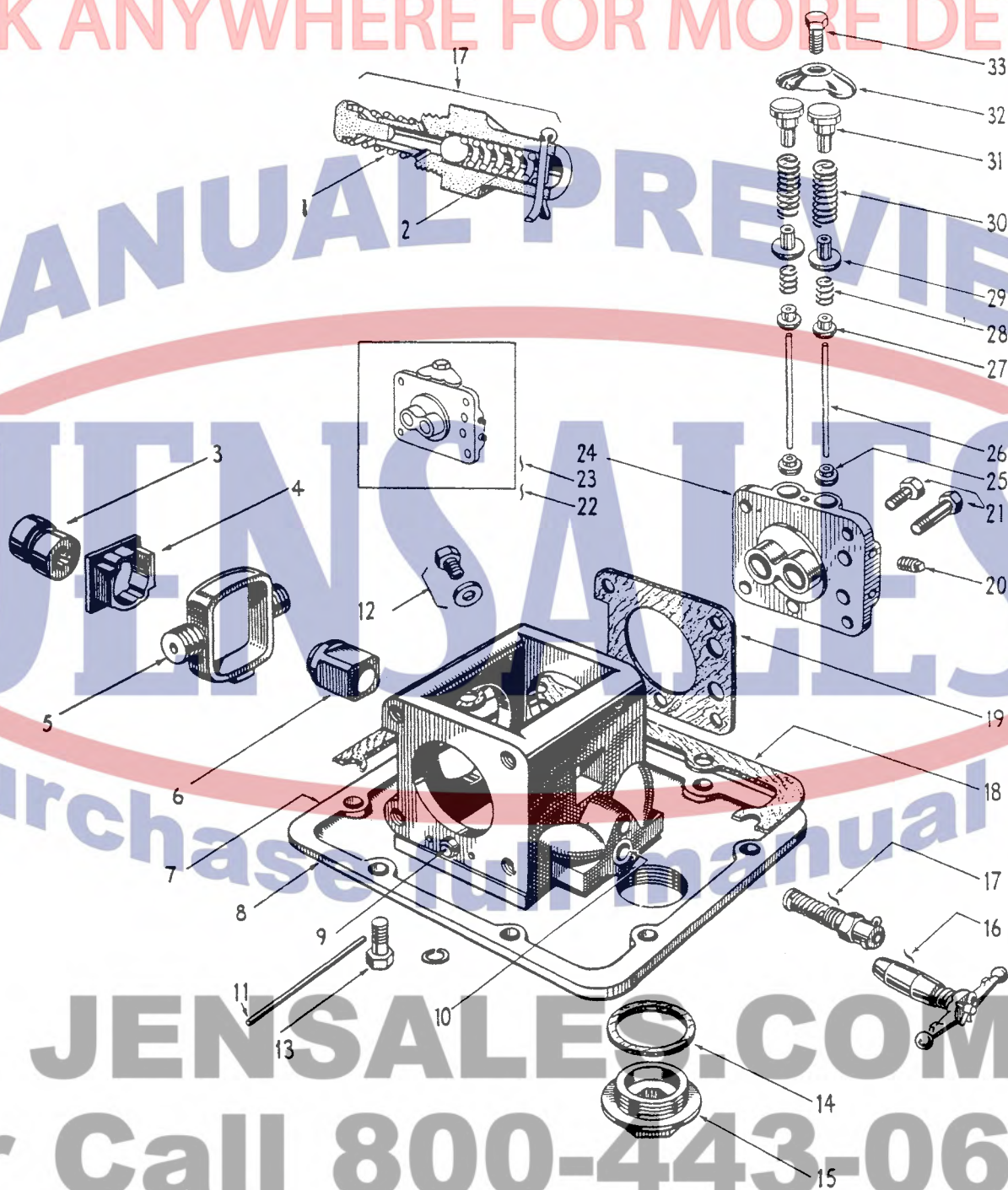
purchase full manual at

JENSALES.COM

or Call 800-443-0625

CLICK ANYWHERE FOR MORE DETAILS

Hydraulic Pump Parts

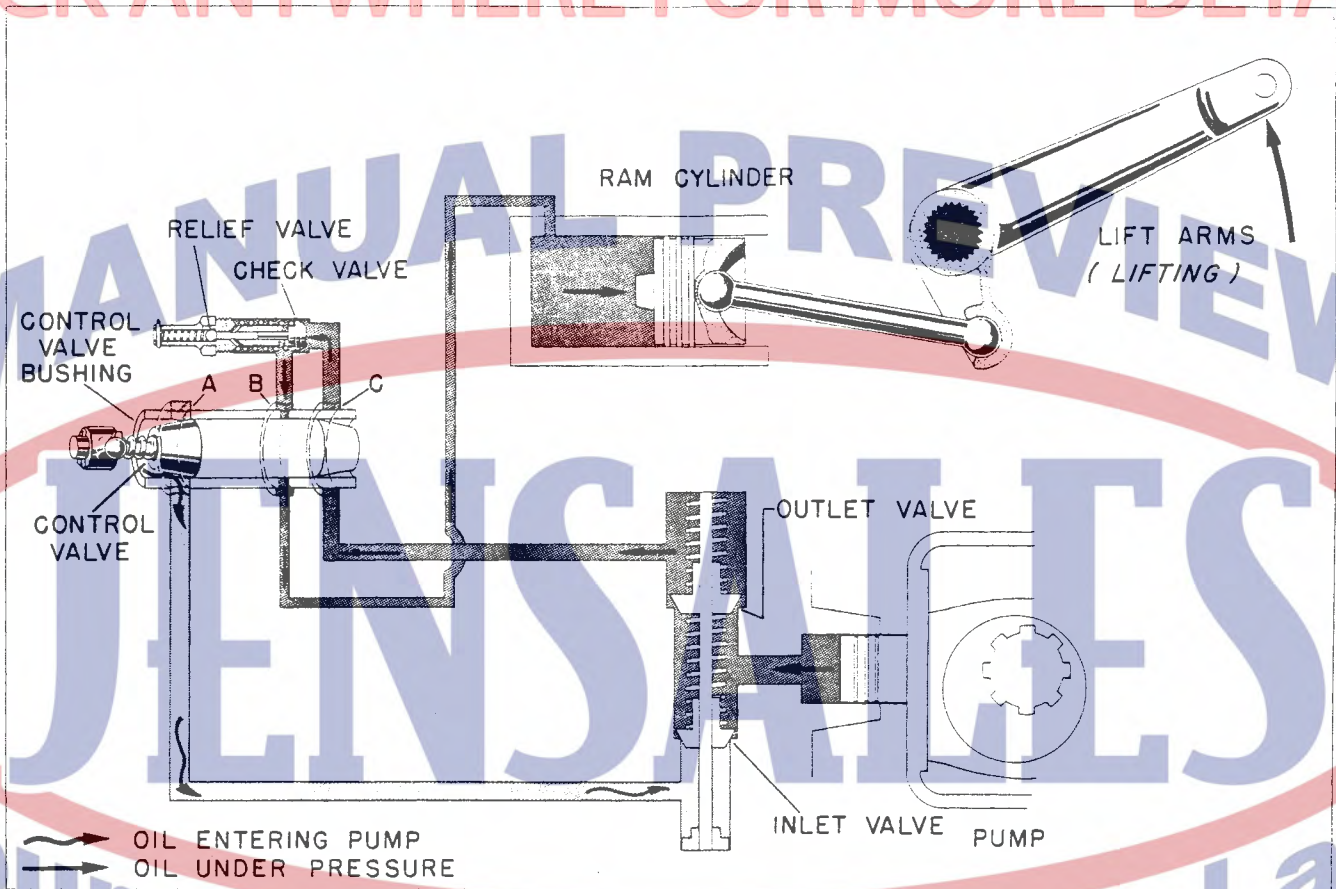


Disassembly of Pump

1. Loosen, but do not remove, cap screws (33).
2. Remove four cap screws from each side of pump; remove valve chambers (24) CAREFULLY. NOTE: Always replace gaskets (19) when servicing a pump.
3. Remove guide rods (11).
4. Lift pistons and piston drive assembly out of pump body. Disassemble and note carefully positions of parts.
5. Remove pipe plugs (20). Pipe plugs close the holes which were drilled to connect the two valve chambers in valve chamber casting.
6. Remove cap screws (33).
7. Remove each valve assembly with long nose pliers. Carefully note position of each part:
 - a. Lower valve seat is intake (seat for 27).
 - b. Upper valve seat is outlet (seat for 29).
 - c. Note that intake valve is below the piston and the outlet valve is above.
 - d. Small spring (28) holds inlet valve closed.
 - e. Larger spring (30) holds outlet valve closed.
 - f. Socket (25) holds valve guide (26) in position. Remove socket by using a wooden pencil with the lead broken off as a probe, slowly turn pencil into socket and withdraw socket with pencil.
8. Remove safety valve (17).
9. Disassemble safety valve.
 - a. Remove cotter pin; ball and spring will fall out. Foreign material between ball and seat will cause valve to leak, thereby preventing pressure to be built up in the ram cylinder.
 - b. Overloading hydraulic system will operate this valve.
 - c. After repeated operations, valve spring may weaken and seat may be reshaped, so that hydraulic system will not lift the load fully. Replacing the valve is the only remedy.
10. Check valve that connects annulus C to annulus B. Oil coming from outlet valves (29) passes through this valve to the ram cylinder. Oil returning from ram cylinder, however, cannot pass through check valve.
 - a. Check valve purpose is to prevent the implement lowering due to loss of pressure through valves of pump.

Action of the Pump:

1. Pump is in action at all times when engine is running and P.T.O. and clutch are engaged.
2. Pump can only force oil into ram cylinder when the inlet port is open, allowing oil to pass into piston chambers.
3. Pump pistons cavitate when inlet port is closed.
4. Action of pump when inlet valve is open:



RAISING

Path of Oil through Hydraulic Mechanism to Raise Implement:

1. Control valve allows oil from reservoir to pass into inlet port of bushing and into annulus A.
2. Oil from A goes to both side chambers through lower passages and inlet valves and is drawn into the piston chambers.
3. Oil is forced out of piston chamber by piston into valve chambers, through outlet valves and through upper passages into annulus C.
4. From annulus C, oil passes through check valve, through annulus B, out the diagonal passage in base of pump, up through transfer tube in center housing, into ram cylinder, forcing piston back, thereby lifting the implement.

Note: Control valve covers outlet port in bushing.

A detailed schematic diagram of a lift pump system. The diagram shows a pump at the bottom right with an inlet valve and an outlet valve. A line from the outlet valve leads to a control valve assembly on the left. This assembly includes a control valve, a check valve, and a relief valve. The control valve has three ports labeled A, B, and C. Port A is connected to the pump's outlet, port B is connected to a ram cylinder, and port C is connected to the lift arms. The ram cylinder is shown in a cross-section, with a piston and a ram. The lift arms are shown at the top right, connected to the ram. A legend at the bottom left indicates that the double-headed arrow symbol represents 'OIL HOLDING LIFT ARMS'. The word 'NEUTRAL' is written at the bottom center.

Labels in the diagram include:

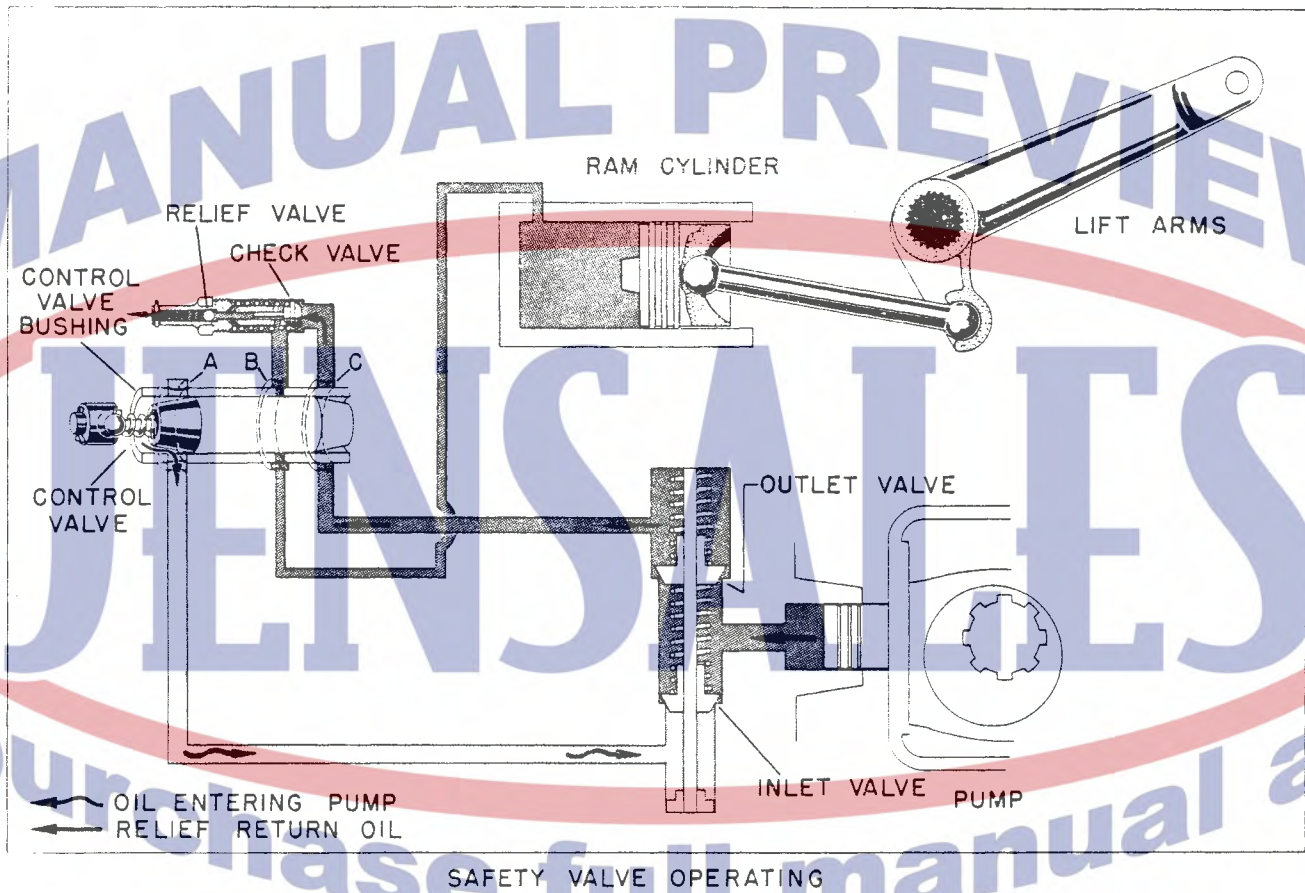
- RELIEF VALVE
- CHECK VALVE
- CONTROL VALVE BUSHING
- CONTROL VALVE
- A
- B
- C
- RAM CYLINDER
- LIFT ARMS
- OUTLET VALVE
- INLET VALVE
- PUMP
- OIL HOLDING LIFT ARMS
- NEUTRAL

1. Control valve is in neutral position (valve covers both the inlet port and outlet port of bushing).

2. Implement does not lower because oil cannot escape from ram cylinder, outlet port is closed, and check valve prevents escaping into valve chambers.
3. Implement does not raise because inlet port is closed, thereby preventing oil from the reservoir from passing to pistons.
4. Pistons cavitate in their chambers.

4. Pistons cavitate in their chambers.

CLICK ANYWHERE FOR MORE DETAILS



JENSALES.COM

Safety Valve Operating:

1. Control valve is allowing oil to enter inlet port.
2. Pump pressure is escaping out relief valve, as resistance on lift arm builds up pressure beyond relief valve setting. Arms do not move up.

CLICK ANYWHERE FOR MORE DETAILS