

CLICK ANYWHERE FOR MORE DETAILS



MANUAL PREVIEW

White

Service Manual

2-85, 2-105 & 2-150

Hydraulics & 3-Point Hitch

purchase full manual at

Service Manual

JENSALES.COM

or Call 800-443-0625



CLICK ANYWHERE FOR MORE DETAILS

THIS IS A MANUAL PRODUCED BY JENSALES INC. WITHOUT THE AUTHORIZATION OF
WHITE OR IT'S SUCCESSORS. WHITE 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.

WH-S-2-85+HYD

GH

CLICK ANYWHERE FOR MORE DETAILS

MANUAL PREVIEW

2-85, 2-105 & 2-150

Hydraulics &

Three-Point Hitch

®

purchase full manual at

Form No. 432 716

JENSALES.COM

or Call 800-443-0625

CLICK ANYWHERE FOR MORE DETAILS

CLICK ANYWHERE FOR MORE DETAILS

TABLE OF CONTENTS

MANUAL PREVIEW

SECTION I	GENERAL
SECTION II	SPECIFICATIONS
SECTION III	TESTING AND TROUBLESHOOTING
SECTION IV	HYDRAULIC OIL COOLING SYSTEM
SECTION V	HYDRAULIC PUMP
SECTION VI	PRESSURE CONTROL VALVE
SECTION VII	SERVO VALVE
SECTION VIII	DRAFT CONTROL UNIT
SECTION IX	DRAFT CONTROL HYDRAULIC CYLINDER – CATEGORY II HITCH
SECTION X	DRAFT CONTROL HYDRAULIC CYLINDER – CATEGORY III HITCH
SECTION XI	DRAFT CONTROL ACTUATING ASSEMBLY – CATEGORY II HITCH
SECTION XII	DRAFT CONTROL ACTUATING ASSEMBLY – CATEGORY III HITCH
SECTION XIII	CATEGORY II THREE-POINT HITCH
SECTION XIV	CATEGORY III 6000 POUND LIFT HITCH
SECTION XV	REMOTE CYLINDER CONTROL VALVES AND MANIFOLD
SECTION XVI	REMOTE CYLINDERS, COUPLINGS

JENSALES.COM
or Call 800-443-0625

CLICK ANYWHERE FOR MORE DETAILS

CLICK ANYWHERE FOR MORE DETAILS

REMOTE CONTROL VALVE — PRESSURE DETENT

Detent Relief Pressure	2100-2200 psi (147.6-154.7 kg/cm ²)
Thermal Relief Valve Pressure	3500-5000 psi (246.1-351.5 kg/cm ²)
Mechanical Override	100-250 lbs. (46.36-113.4 kg)

PRESSURE CONTROL VALVE

Brake and PTO Clutch Operating Pressure	185 psi (13 kg/cm ²) minimum with 1gpm (3.8 liters/min.) flow out low pressure port
Brake and PTO System Relief Valve Pressure	240 psi (16.9 kg/cm ²) max.
Main Relief Valve Pressure	2470-2530 psi (173.6-177.9 kg/cm ²)
Priority Valve Pilot Opening Pressure	1475-1525 psi (103.7-107.2 kg/cm ²)

TORQUE VALUES

Reservoir Cone Head Cap Screws	135-159 ft.-lbs. (18.7-22.0 m.-kg) max.
Reservoir 1/2 - 13 Cap Screws	65-72 ft.-lbs. (9.0-10.0 m.-kg) max.
Reservoir 5/8 - 11 Cap Screws	126-139 ft.-lbs. (17.4-19.2 m.-kg) max.
Filter Center Post	20 ft.-lbs. (2.8 m.-kg) max.
Hydraulic Pump	
Drive Gear and Driven Shaft - Bearing Preload	3-5 in.-lbs. (.03-.06 m.-kg)
Yoke Cap Screws	20-25 ft.-lbs. (2.8-3.5 m.-kg)
Cover Cap Screws	42-45 ft.-lbs. (5.8-6.2 m.-kg)
Compensator-to-End Plate Cap Screws	5-6 ft.-lbs. (.7-.8 m.-kg)
Relief Valve Cap	15-20 ft.-lbs. (2.1-2.8 m.-kg)
Three-Point Hitch	
Servo Valve Shouldered Cap Screws	26-28 ft.-lbs. (3.6-3.9 m.-kg)
Lift Cylinder Safety Valve Seat	75-90 ft.-lbs. (10.4-12.5 m.-kg)
Remote Cylinder Control Valves	
Manifold Cap Screws	26-28 ft.-lbs. (3.6-3.9 m.-kg)
End Plate and Valve Mounting Cap Screws	26-28 ft.-lbs. (3.6-3.9 m.-kg)
Float Valve	
Detent Screw-to-Spool	5-8 ft.-lbs. (.7-1.1 m.-kg)
Detent Block Allen Head Screws	10-13 ft.-lbs. (1.4-1.8 m.-kg)
Pressure Detent Valve, Detent Retainer-to-Spool	5-8 ft.-lbs. (.7-1.1 m.-kg)

LEAKAGE SPECIFICATIONS — AT 130° F. (54.4° C.)

Pump at 2200 psi (154.7 kg/cm ²)	7500 ml/min.
Relief Valve at 2450 psi (172.2 kg/cm ²)	100 ml/min.
Unloader Valve at 2200 psi (154.7 kg/cm ²)	100 ml/min.
Pressure Reducing Valve at 240 psi (16.9 kg/cm ²)	250 ml/min.
Steering Control Unit at 2200 psi (154.7 kg/cm ²)	500 ml/min.
Brake Valve	400 ml/min.
PTO Valve at 240 psi (16.9 kg/cm ²)	350 ml/min.
Servo Valve	550 ml/min.
Remote Valve	600 ml/min.

CLICK ANYWHERE FOR MORE DETAILS

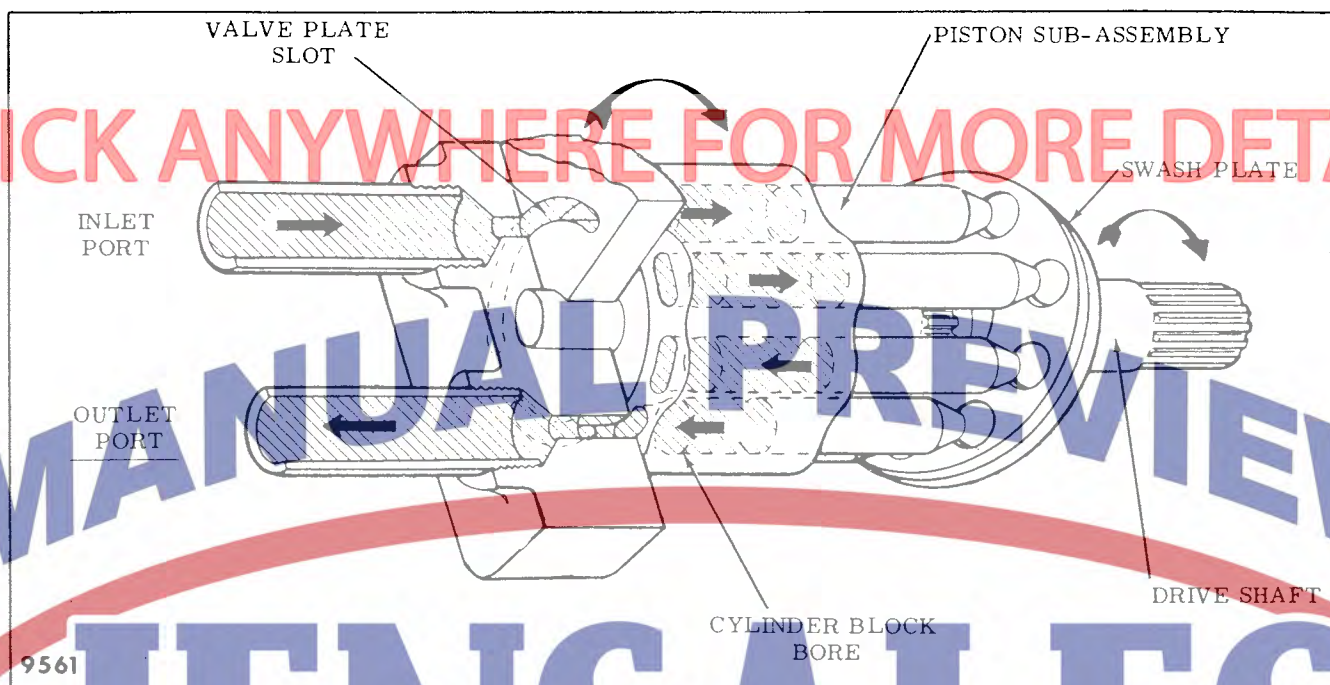


Fig. 4 Fluid Flow

When flow is required, initial system pressure decrease of approximately 130 psi in passage A (Fig. 2) allows compensator spool spring to move compensator spool so that pressure on actuating piston is decreased. Fluid from actuating piston returns to pump body through passage B (Fig. 2). Yoke spring force then moves yoke and swash plate toward partial or maximum displacement position, depending on flow requirement (Fig. 3). Fluid from valve plate inlet port flows into cylinder block bore as piston moves away from valve plate (Fig. 4). When piston has withdrawn from cylinder block bore as far as angle between swash plate and drive shaft will allow, further shaft rotation moves piston back into bore toward valve plate forcing fluid through plate outlet port. When displacement has been established to meet flow requirement, system pressure returns to within 25 psi of 2200 psi.

Compensator will allow maximum pump output if flow resistance does not exceed compensator pressure setting. If flow resistance exceeds setting, pressure in passage A increases and compensator operates as described when system flow is not required.

When system flow is not required and only minimal flow for pump cooling and to compensate for internal leakage is required, pressure in passage A moves compensator spool against spring. Pressure on actuating piston increases against opposing yoke spring force moving yoke and swash plate toward minimum displacement position.

REMOVAL AND INSTALLATION

Remove pump shield. Unthread plug on bottom of filter (Fig. 5) and drain reservoir. Disconnect pump drain line and remove pump outlet line. Loosen coupling hose clamps and disconnect hose from pump inlet port. Loosen inlet tube lock nut and move tube to an out-of-way



Fig. 5 Pump Removal and Installation

position. Remove pump flange cap screws and pull pump and spline coupling from support.

Cement new gasket to pump with Permatex No. 3 or equivalent and apply grease to transmission side of gasket.

Fill pump completely with recommended fluid and reverse removal procedures to install pump (Fig. 5). If valve plate kit was installed, be sure plug and O-ring are removed from plate and that pump drain line is reconnected. Fill reservoir, bleed filter, operate system, check and replenish fluid level as required.

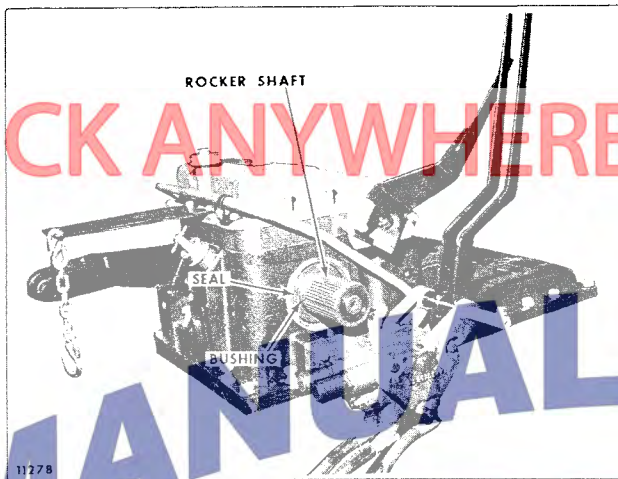


Fig. 4 Rocker Shaft Removal



Fig. 5 Rocker Shaft Installation

Connect cooler return line, PTO clutch return line, lift circuit line, pressure control valve return line, pump return line, filter inlet hose, gerotor pump inlet line, steering return line, and brake return line. Connect external lift cylinder hoses, if so equipped, to fitting on servo valve manifold.

Secure clip fastening cooler return line to transmission cover. Install center platform and gear shift. Attach remote cylinder coupler holders to bracket.

Connect PTO control rod to control lever. Install control lever console and support bracket. Install pin connecting clevis link to draft arm. Connect external lift cylinders, if so equipped, and lift links to lift arms. Remove lifting eyes and install seat assembly and heat shield. Install upper link.

Install drain plug in filter and refill unit to proper level with White Farm Equipment Type 55 Hydraulic Oil. Bleed filter, check operation of unit and check lift arm adjustment.

ROCKER SHAFT REMOVAL

Left wheel guard must be removed to disassemble rocker shaft unless hydraulic unit is removed from tractor. Disconnect lift links and external lift cylinders, if so equipped. Drain reservoir. Remove cap screws securing hitch position arm to left end of rocker shaft. Remove snap rings from ends of rocker shaft and remove lift arms.

Using suitable driver, drive rocker shaft out of housing from either side (Fig. 4). This will force seal and bushing out opposite side. Other seal and bushing can be removed in same manner if desired.

If rocker arm is to be removed, remove cover, servo valve, and servo valve manifold plate. See Servo Valve and Manifold Removal and Installation discussion.

ROCKER SHAFT INSTALLATION

Using an ST-125-D Mandrel and ST-143 Internal Driver, drive one rocker shaft bushing into housing until it is flush with oil seal counterbore (Fig. 5). If previously removed, position rocker arm in reservoir. Slide either end of rocker shaft through housing. Rocker arm has blind spline to match blind spline on shaft. Do not try to force shaft as shaft will slide into rocker arm freely when correctly aligned. Install other rocker shaft bushing by driving bushing into housing with ST-144 External Driver.

Install rocker shaft oil seals with seal lips pointing inward. Coat outer edge of each with gasket cement, such as Permatex No. 3. Coat inner surface and shaft splines with grease. Carefully work seals over shaft splines onto shaft bearing surface and drive them into oil seal counterbores using suitable seal driver.

Install reservoir cover, servo valve and servo valve manifold plate if previously removed.

Install lift arms and secure with snap rings.

Connect lift links and external lift cylinders, if so equipped. Install hitch position arm. Install left wheel guard. Refill reservoir with White Farm Equipment Type 55 Hydraulic Oil. Check lift arm adjustment.

Lift arms should not be removed when three-point hitch is not used unless spacers are placed over ends of rocker shaft and secured with lift arm snap rings. If spacers are not used, rocker shaft will move from one side to other far enough to eventually damage seal lips.

Spacers can be made of metal tubing such as pipe. Minimum ID is 2-11/16 inches. Provision must be made to protect outer rubber seal lips with large washers or other material. These must be placed between spacers and seals. Overall length of washers and spacers should be maximum of 3-5/8 inches.

CLICK ANYWHERE FOR MORE DETAILS

INDEX

Breakaway Couplings	74, 75
Compensator - Hydraulic Pump	25
Adjustment	26
Assembly	26
Disassembly	26
Inspection	26
Draft Control Actuating Assembly - Category II Hitch	49
Adjustment	50
Assembly and Installation	50
Removal and Disassembly	49
Draft Control Actuating Assembly - Category III Hitch	51
Adjustment	52, 53
Assembly and Installation	52
Removal and Disassembly	51
Draft Control Hydraulic Cylinder - Category II Hitch	45
Piston	45
Removal and Installation	45
Safety Valve	45
Adjustment	45
Overhaul	45
Draft Control Hydraulic Cylinder - Category III Hitch	47, 48
Overhaul	47
Removal and Installation	47
Safety Valve	48
Adjustment	48
Overhaul	48
Draft Control Unit	37
Adjustment - Draft Sensitivity	39
Adjustment - Lift Arm	43
Draft Input Shaft Removal and Installation	46
External Cylinder Removal and Installation	43
Internal Cylinder Removal and Installation	42, 43
Operation	37
Reservoir Removal and Installation	39
Restrictor Valve - Early Model Unit	44
Restrictor Valve - Late Model Unit	44
Rocker Shaft Removal and Installation	40
Servo Valve and Manifold Removal and Installation	41, 42
Three-Point Hitch Control Lever Shaft Removal and Installation	41

CLICK ANYWHERE FOR MORE DETAILS

General (System Operation)	1
----------------------------------	---

Hoses	74
-------------	----

Hydraulic Pump	21
----------------------	----

Compensator	25, 26
-------------------	--------

Operation	22, 23
-----------------	--------

Overhaul	24, 25
----------------	--------

Removal and Installation	23
--------------------------------	----

Oil Cooler	19
------------------	----

Oil Cooler Pump	17
-----------------------	----

Adjustment and Test	17
---------------------------	----

Overhaul	19
----------------	----

Removal and Installation	18
--------------------------------	----

Pressure Control Valve	27
------------------------------	----

Adjustment	29
------------------	----

Disassembly and Assembly	30, 31
--------------------------------	--------

Operation	28, 29
-----------------	--------

Removal and Installation	29
--------------------------------	----

Servicing	29
-----------------	----

Remote Hydraulic Cylinders and Connections	69
--	----

Disassembly and Assembly - 3-1/2-inch Cylinder	70, 71
--	--------

Disassembly and Assembly - 4-inch Cylinder	72, 73
--	--------

Specifications	69
----------------------	----

Remote Cylinder Control Valves	63
--------------------------------------	----

Manifold	68
----------------	----

Operation	68
-----------------	----

Servicing Float Valve	67, 68
-----------------------------	--------

Servicing Pressure Detent Valve	67, 68
---------------------------------------	--------

Service Tools	13
---------------------	----

Servo Valve	33
-------------------	----

Operation - Early Model Unit	33
------------------------------------	----

Operation - Late Model Unit	35
-----------------------------------	----

Overhaul - Early Model Unit	34
-----------------------------------	----

Overhaul - Late Model Unit	36
----------------------------------	----

Removal and Installation	41, 42
--------------------------------	--------

Specifications	3, 4
----------------------	------

Testing and Troubleshooting	5
-----------------------------------	---

Brake Valve	11
-------------------	----

Filter	6
--------------	---

Hydraulic Pump	7
----------------------	---

Pressure Control Valve	7, 8, 9
------------------------------	---------

PTO Valve	11
-----------------	----

Quick Check	12
-------------------	----

Reservoir	6
-----------------	---

Servo Valve	10
-------------------	----

Steering Control Unit	10
-----------------------------	----

CLICK ANYWHERE FOR MORE DETAILS

MANUAL PREVIEW

GENSALES®

purchase full manual at

GENSALES.COM

or Call 800-443-0625

CLICK ANYWHERE FOR MORE DETAILS

Three-Point Hitch - Category II 55

Attaching Implement 56

Classes of Implements 55

Draft Sensitivity Adjustment 57

Overhaul 57

Specifications 55

Three-Point Hitch - Category III 59

Attaching Implement 60

Classes of Implements 59

Draft Sensitivity Adjustment 61

Overhaul 61

Specifications 59

Torque Chart 2

Troubleshooting Guide 13, 14, 15, 16

MANUAL PREVIEW

JENSALES®

purchase full manual at

JENSALES.COM

or Call 800-443-0625

CLICK ANYWHERE FOR MORE DETAILS