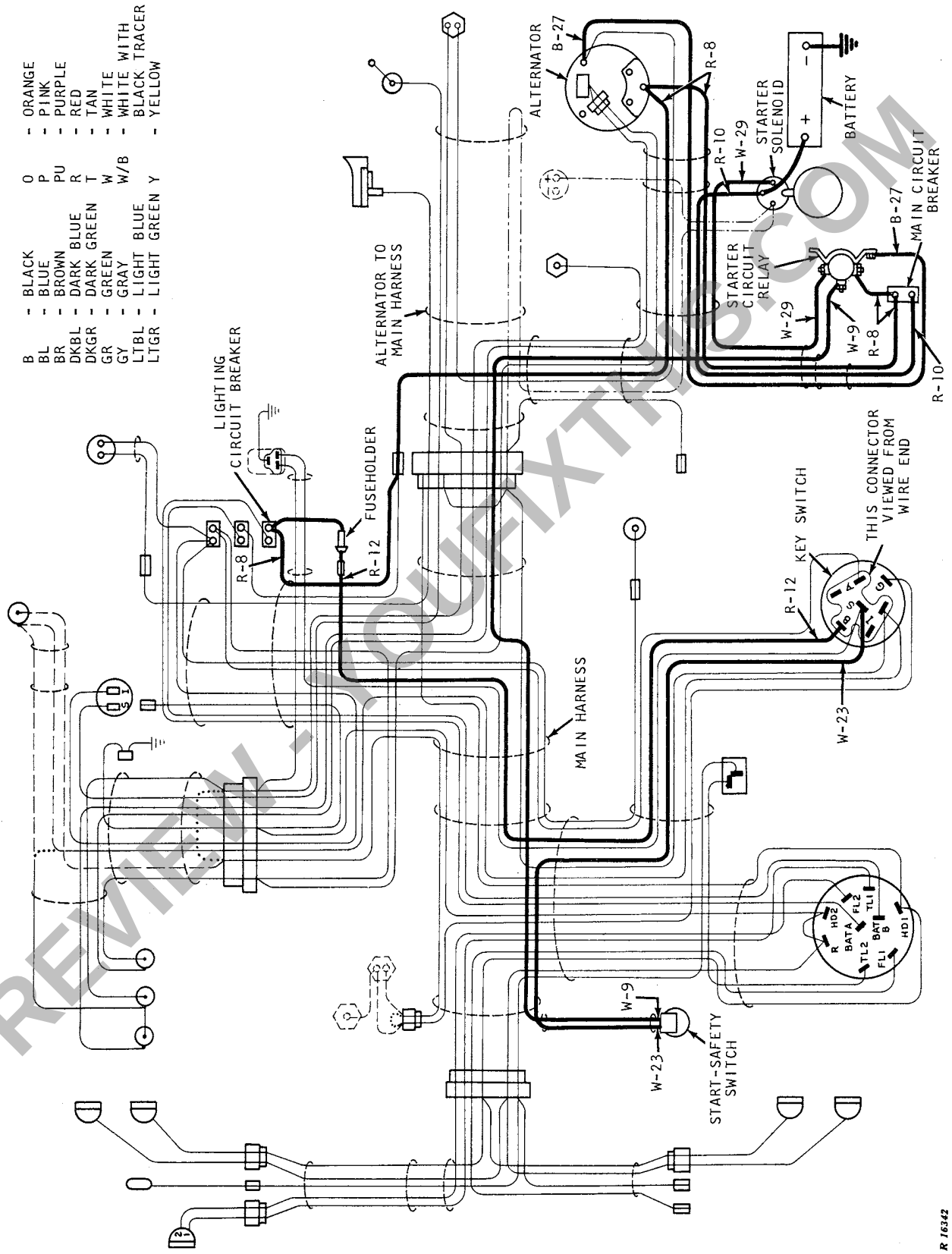


Fig. 2-Starting Circuit (Shown in Bold Line)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Transmission Control System

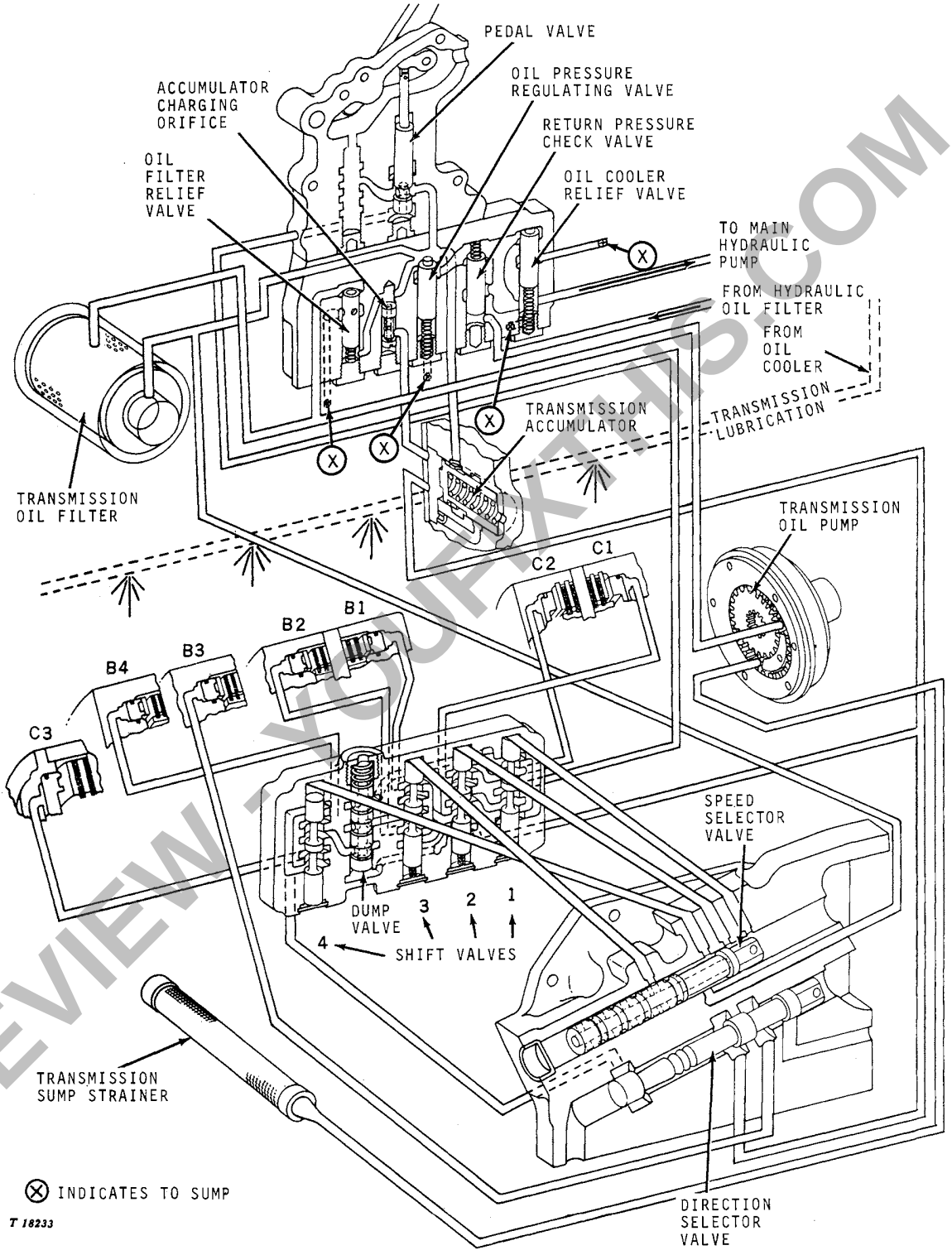


Fig. 7-Transmission Control System
(Single clutch accumulator system shown)
(T 17,000-22,000)

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

the final drive gear housing from the final drive shaft housing (Fig. 16). Use row-crop removal procedures to remove the hi-crop final drive shaft housing.

INSTALLATION

Reverse the removal procedures to install the final drive assemblies.

IMPORTANT: To prevent serious damage, be sure that the sun pinion does not work outward far enough to allow the brake disk to drop inside the sun pinion teeth when installing the final drive housing.

TORQUES FOR HARDWARE

Item	Specification
Hydraulic pump drive coupling	20 ft-lbs
Engine front support to cylinder block	9/16-in. screw—130 ft-lbs
	5/8-in. screw—170 ft-lbs
Side frames-to-engine front support and flywheel housing	250 ft-lbs
Clutch housing-to-engine	170 ft-lbs
Clutch housing-to-transmission case screws and nuts	5/8 in.—170 ft-lbs
	3/4 in.—300 ft-lbs
Axle housing-to-transmission case	130 ft-lbs

NORMAL TORQUE IN FOOT-POUNDS



Bolt Diameter	Plain Head*	Three Radial Dashes*	Six Radial Dashes*
1/4	6	10	14
5/16	13	20	30
3/8	23	35	50
7/16	35	55	80
1/2	55	85	120
9/16	75	130	175
5/8	105	170	240
3/4	185	300	425
7/8	160**	445	685
1	250**	670	1030

**The types of bolts and cap screws are identified by head markings as follows:*

Plain Head: regular machine bolts and cap screws.

3-Dash Head: tempered steel high-strength bolts and cap screws.

6-Dash Head: tempered steel *extra* high-strength bolts and cap screws.

***Machine bolts and cap screws 7/8-inch and larger are sometimes formed hot rather than cold, which accounts for the lower torque.*

SPECIAL TOOLS

No.	Name	Use
JD244†	Engine Lift Eyes	Engine removal
JDG-1†	Engine Sling	Engine removal
JDG-2†	Splitting Stand	Tractor splitting
.....	Pulling Tool	PTO clutch gear removal
.....	Lift Brackets	Clutch housing assembly lifting

†Order from Service Tools Inc., 1901 Indiana Avenue, Chicago, Illinois 60616.

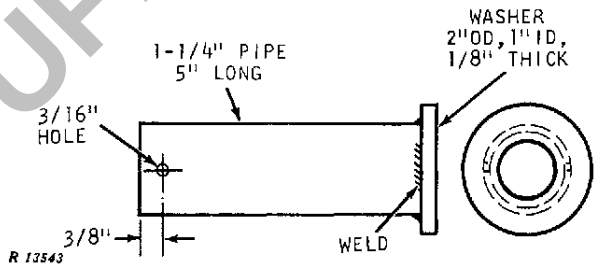


Fig. 17-Pulling Tool

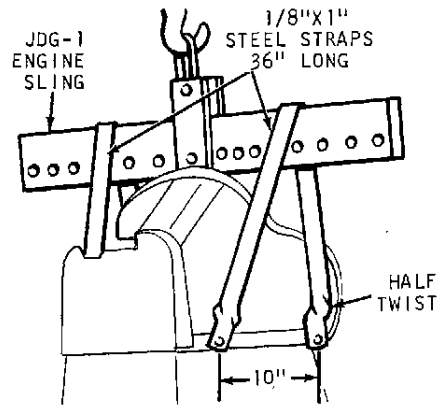


Fig. 18-Lift Bracket

PREVIEW YOUFIXTHIS.COM
Download full manual at youfixthis.com

Group 25
SEPARATION

SEPARATING ENGINE FROM CLUTCH HOUSING

Follow all precautions regarding safety, cleanliness, and general mechanical procedures. See the John Deere "Fundamentals of Service" manuals.

Drain engine cooling system and remove cowl, side shields, grille screens, hood, and control support covers.

Disconnect battery ground cable (left battery is grounded on diesel tractor).

On tractors with an accumulator, remove the cap screw fastening the accumulator support bracket to the engine.

CAUTION: Before separating a tractor that has an accumulator, discharge the accumulator by opening the right-hand brake bleed screw, and holding the brake pedal down for a few minutes.

1. Disconnect hydraulic pump oil seal drain tube. (Fig. 1).
2. Disconnect battery cable from starter. Remove wiring band if around cable.
3. Detach starter circuit relay mounting bracket from control support and disconnect tachometer cable.
4. Disconnect either starting aid pipe (diesel).
5. Remove hydraulic pipe clamps.
6. Disconnect hydraulic pressure pipe.
7. Disconnect wiring harness at firewall connectors and remove wiring bands to hydraulic pipe.
8. Disconnect hydraulic oil return pipe.
9. Remove hydraulic pipe spacer clamps and disconnect steering pipes.

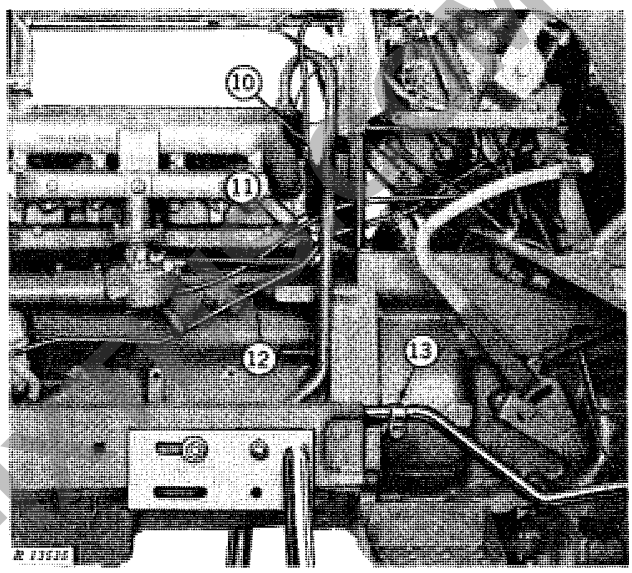


Fig. 2-Separation Procedures on Left-Hand Side

10. Disconnect engine temperature gauge bulb.
11. Disconnect choke cable (gasoline).
12. Remove speed control rod.
13. Syncro-Range - remove clamp and disconnect hydraulic pump inlet pipe.

Power Shift - remove left tractor step and disconnect hydraulic pump inlet pipe.

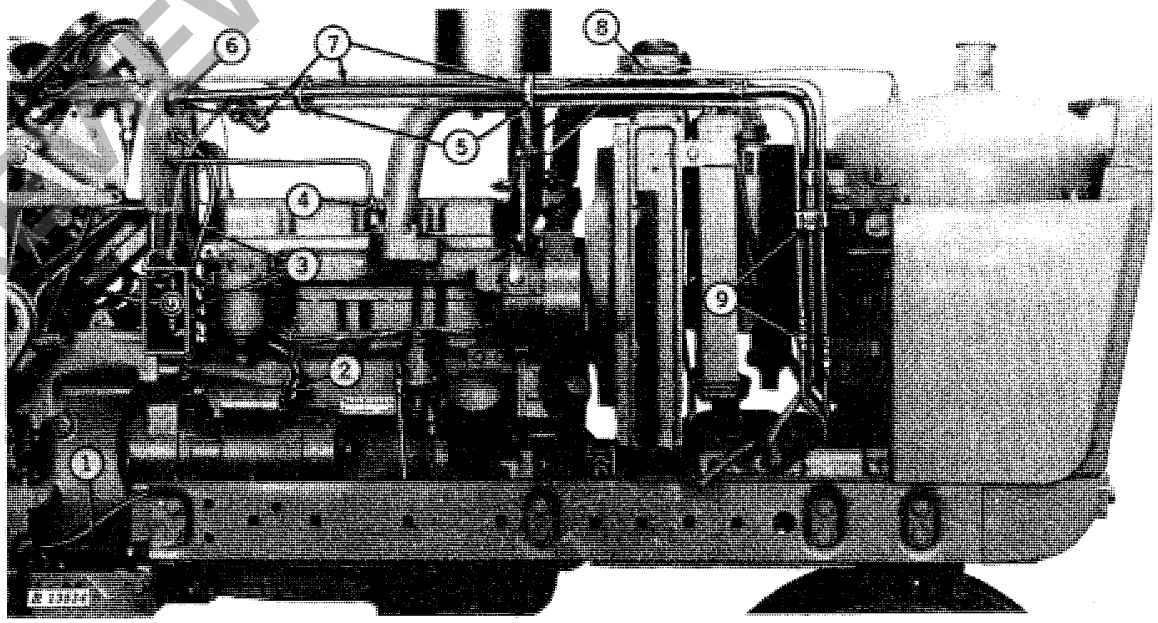


Fig. 1-Separation Procedures on Right-Hand Side

Litho in U.S.A.

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

Group 10
GENERAL

CONTENTS OF THIS SECTION

Page

GROUP 5 - GENERAL TRACTOR SPECIFICATIONS 5-1

GROUP 10 - PREDELIVERY, DELIVERY, AND AFTER-SALE SERVICES
- Predelivery Services 10-1
- Delivery Services 10-3
- After-Sale Services 10-4

GROUP 15 - TUNE-UP
- Preliminary Engine Testing 15-1
- Engine Tune-Up 15-1
- Engine Final Testing 15-3
- Tractor Tune-Up 15-4

GROUP 20 - LUBRICATION
- Lubrication Chart (capacities, lubricants, and intervals) 20-1
- Engine Lubricating Oils 20-2
- Transmission-Hydraulic Oil 20-2
- Greases 20-2
- Storing Lubricants 20-2

GROUP 25 - SEPARATION
- Separating Engine from Clutch Housing 25-1
- Separating Clutch Housing from Power Shift Transmission 25-2
- Separating Clutch Housing from Syncro-Range Transmission 25-4
- Removing Engine 25-5
- Separating Engine from Front End 25-6
- Removing Final Drive Assembly 25-7
- Torques for Hardware 25-8
- Special Tools 25-8

Group 5
GENERAL TRACTOR SPECIFICATIONS

PTO HORSEPOWER (Official test, 2500 engine rpm)

	Gasoline	Diesel
Syncro-Range transmission	60.16	61.29
Power Shift transmission	56.98	56.28

ENGINE
- Type ..... 4-stroke cycle, 4-cylinder in-line, valve-in-head
- Bore and Stroke:
  - Diesel ..... 4.02 x 4.33 in.
  - Gasoline ..... 3.86 x 4.33 in.
- Displacement:
  - Diesel ..... 219 cu. in.
  - Gasoline ..... 202 cu. in.
- Compression ratio:
  - Diesel ..... 16.3 to 1
  - Gasoline ..... 7.8 to 1
- Firing order 1-3-4-2
- Valve clearance:
  - Diesel:
    - Intake ..... 0.014 in.
    - Exhaust ..... 0.018 in.
  - Gasoline:
    - Intake ..... 0.014 in.
    - Exhaust ..... 0.022 in.
- Injection pump timing ..... TDC
- Distributor timing:
  - 2500 rpm engine speed ..... "S" Mark
- Distributor point gap ..... 0.020 in.
- Distributor cam dwell ..... 66° to 72°
- Spark plug gap ..... 0.025 in.
- Engine speeds:
  - Normal slow idle ..... 800 rpm
  - Working range ..... 1500 to 2500 rpm

Litho in U.S.A.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Group 5
GENERAL INFORMATION, DIAGNOSIS AND TESTS

GENERAL INFORMATION

The engine is a 4-cylinder, vertical in-line, four cycle engine. It can be either gasoline or diesel fueled.



For basic theory of engine operation, see the FOS-30 "Engines" manual.

DIAGNOSING MALFUNCTIONS

Will Not Crank

Electrical System Malfunction—See Section 40
- Battery failure
- Faulty battery connections
- Defective switches (ignition or safety-start)
- Defective starter solenoid
- Defective starter
- Circuit breaker stuck open

Will Not Start

Fuel System Malfunction—See Section 30
- Foreign matter in fuel
- Improper fuel
- Sticking choke
- Faulty fuel pump
- Faulty injection pump
- Faulty injection nozzles
- Fuel shut off at tank
- Restricted air intake
- Plugged fuel filter
- Faulty carburetor

Electrical System Malfunctions—See Section 40
- Corroded or loose battery connections
- Faulty or loose wiring
- Weak battery
- Faulty key switch
- Faulty spark plugs
- Faulty coil or condenser
- Cracked distributor cap
- Faulty or incorrectly installed spark plug wires
- Faulty safety start switches

Uneven Running Or Frequent Stalling

Basic Engine Problem—See This Section
- Improper valve clearance
- Valves sticking or burned
- Cylinder head gasket leaking
- Worn or broken compression rings
- Low compression
- Incorrect timing
- Coolant temperature below normal
- Engine overheating

Fuel System Malfunction—See Section 30
- Low fuel supply
- Restricted fuel lines or filters
- Faulty fuel pumps
- Faulty injection pump
- Faulty injection nozzles
- Exhaust system restricted
- Carburetor adjusted incorrectly
- Leaking carburetor or intake manifold gasket

Electrical System Malfunction—See Section 40
- Faulty ignition system
- Faulty spark plugs
- Faulty coil or condenser
- Faulty distributor points
- Distributor advance inoperative

Engine Misses

Basic Engine Problem—See This Section
- Worn camshaft lobes
- Weak valve springs
- Incorrect valve clearance
- Burned, pitted, warped or sticking valves
- Low compression
- Incorrect timing
- Engine overheating
- Faulty governor
- Detonation or pre-ignition

Fuel System Malfunction—See Section 30
- Air in fuel
- Water in fuel
- Faulty injection nozzles
- Faulty injection pump
- Mixture of gasoline and diesel fuel
- Faulty fuel pump
- Faulty carburetor
- Faulty choke

Electrical System Malfunction—See Section 40
- Incorrect spark plugs (pre-ignition)
- Weak coil or condenser
- Distributor cam lobe worn

Litho in U.S.A.

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

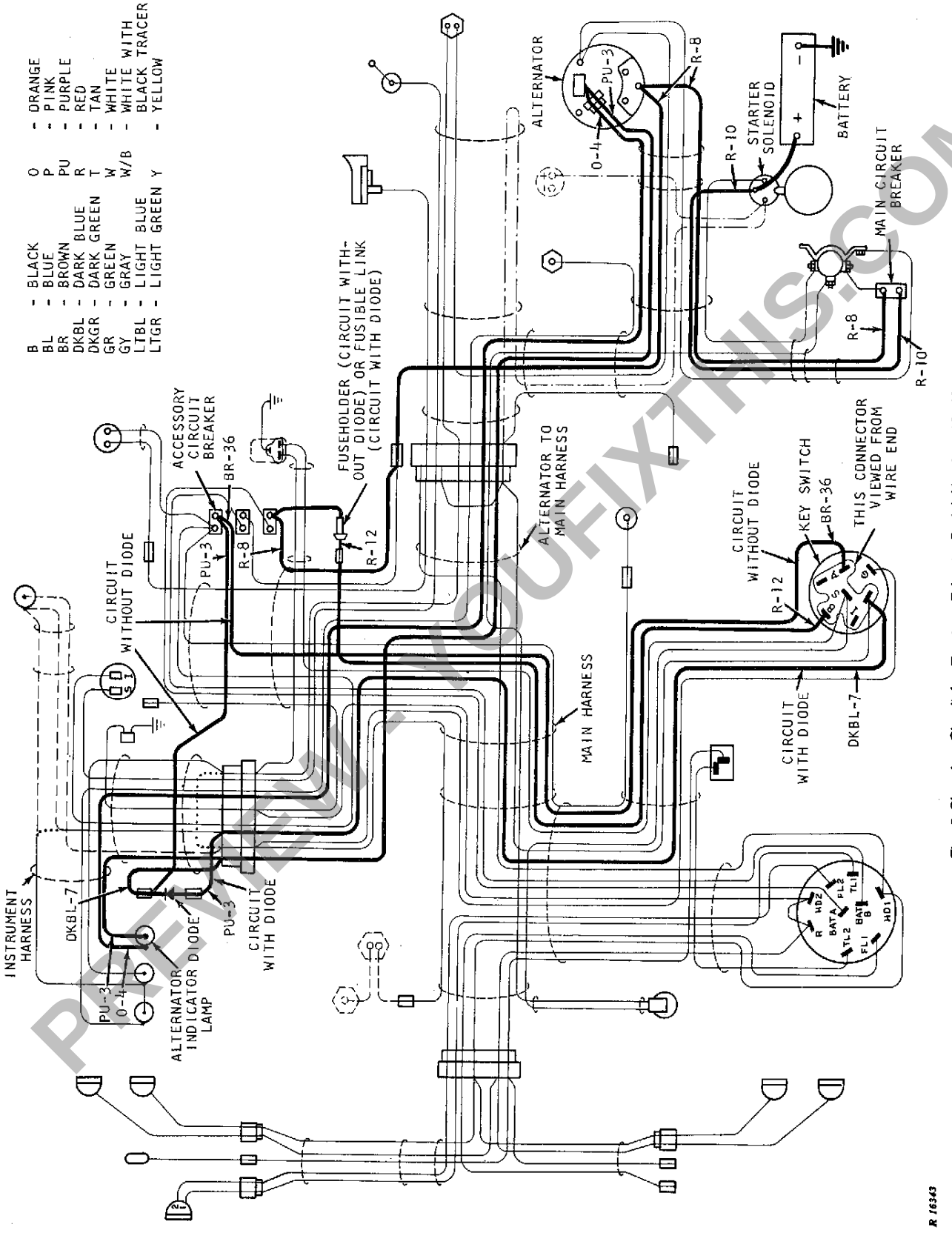


Fig. 3-Charging Circuit for Tractors Prior to Serial Number 19542

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

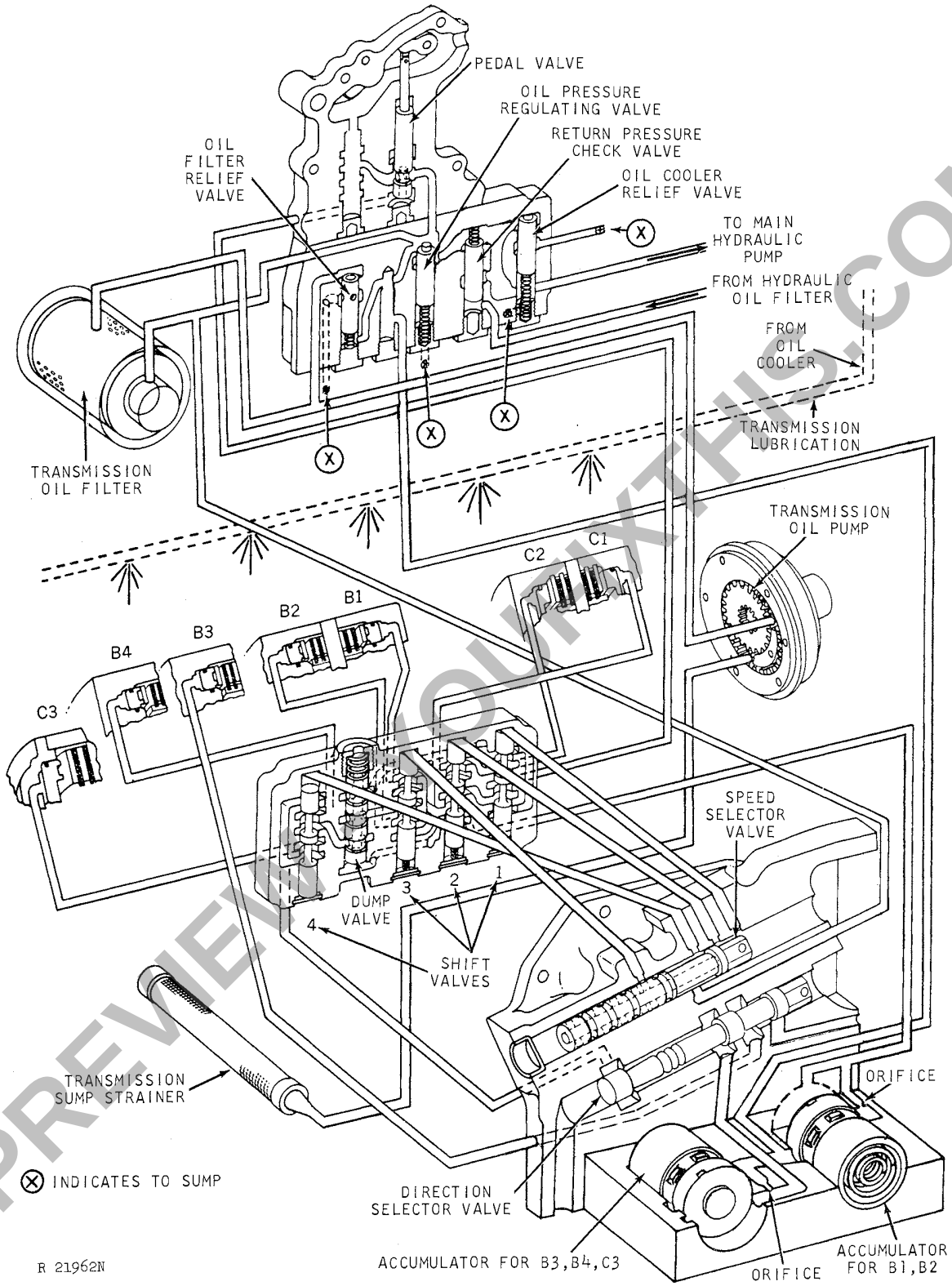


Fig. 8-Transmission Control System
(Dual-Stage Accumulator System Shown)
(T22,001-)

PREVIEW ONLY
Download full manual at youfixthis.com

If a failed valve has been replaced, also replace the rocker arm and push rod for that valve.

Assembly

Assemble parts on rocker arm shaft in sequence removed. Position plugs correctly in each end of the rocker arm shaft.

Apply AR44402 Lubricant to valve stems and guides and install valves in guides from which they were removed. Valves must move freely and seat properly.

Install valve springs, making certain that cylinder head end of spring is located correctly in the machined counterbore of the head.

Install rotators or spring retainers and retainer locks on valves. "Pop" each valve three or four times with a soft mallet to insure proper positioning of the retainer locks.

Installation

Use the following list of torque specifications when installing cylinder head and valve train parts.

TORQUES FOR HARDWARE

Location	Torque (ft-lbs)
Rocker arm shaft clamps to head	35
Cylinder head to block	110
Injection nozzles	14-17
Water manifold to head	35
Intake manifold to head	35
Exhaust manifold to head	35

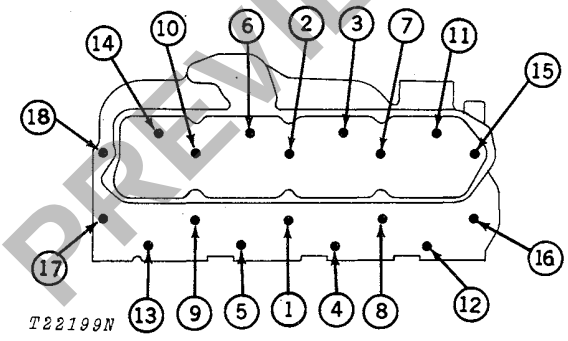


Fig. 4-Cylinder Head Cap Screw Tightening Sequence

Install cylinder head gasket dry. Dip cap screws in engine oil before installation. Install cylinder head, using hardened flat washers under cap screws. Tighten cap screws evenly to 110 ft-lbs torque following sequence shown in Fig. 4.

Install push rods in holes from which they were removed.

Install valve stem wear caps on diesel valves making certain caps rotate freely.

Install rocker arm assembly. Make sure that spring pin in head aligns with pin hole in rocker arm shaft. This will align lubricating holes in shaft and head. Tighten rocker arm shaft clamps to 35 ft-lbs torque.

Valve Clearance Adjustment

The engine may be either hot or cold during valve adjustment.

Adjust valves to following clearances:

Gasoline - Intake	0.014 in.
Gasoline - Exhaust	0.022 in.
Diesel - Intake	0.014 in.
Diesel - Exhaust	0.018 in.

Set No. 1 piston on "TDC" of compression stroke and insert timing pin into flywheel housing hole.

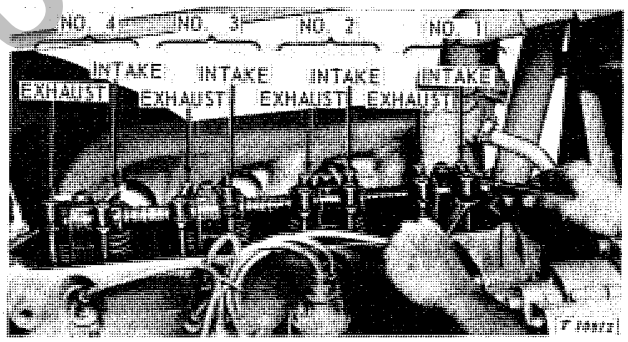


Fig. 5—Adjusting Valve Tappet Clearance

Adjust valve clearance on No. 1 and 3 exhaust and on No. 1 and 2 intake valves to clearances specified. Using a feeler gauge to measure clearance, turn valve adjusting nut up or down until clearance is correct (Fig. 5).

Pull out timing pin and rotate engine flywheel 360°. Allow pin to drop into flywheel hole.

Adjust valve clearance on No. 2 and 4 exhaust and No. 3 and 4 intake valves to clearances specified.

Retighten cylinder head cap screws and recheck valve clearances after one hour run-in with engine at 2500 rpm with 1/2 load.

Litho in U.S.A.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Install front and rear splitting stands.

Remove cap screws securing engine to clutch housing and roll rear half of tractor away.

ASSEMBLY

Apply a light coating of Permatex to joining surfaces and move both halves of tractor together. Never use excessive force.

Tighten clutch housing to engine cap screws to specified torque and remove splitting stands.

Reverse the numbered separation procedures.

Fill the engine cooling system. Connect battery ground (tap cable on battery post first). Check engine crankcase and transmission oil levels.

Bleed steering system (Section 70, Group 20).

After checking for leaks, install tractor sheet metal.

SEPARATING CLUTCH HOUSING FROM POWER SHIFT TRANSMISSION CASE

Separate the engine from the clutch housing as previously instructed. Discharge accumulator.

Drain transmission and remove batteries.

Disconnect wiring harness from dimmer switch on tractors with dual-beam headlights.

Remove differential lock pedal pivot pin. Do not remove differential lock return valve. Remove rockshaft selector knob and platform.

1. Remove hydraulic filter outlet pipe (Fig. 3).

2. Disconnect main harness from lighting harness, transmission filter restriction indicator lamp wire, and from start-safety switch (Fig. 4). Remove battery cable clamps.

3. Disconnect differential lock control link and transmission park lock cable.

4. Disconnect hydraulic pressure pipe to rockshaft.

5. Disconnect left-hand and right-hand brake pipes.

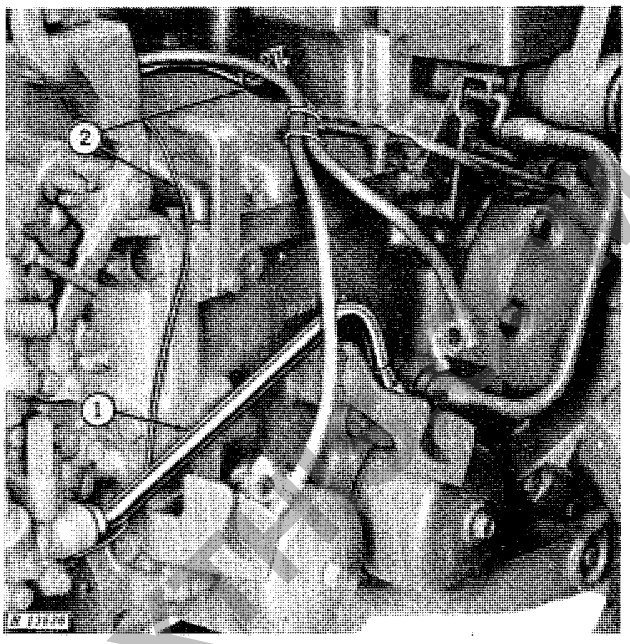


Fig. 3-Left-Hand Side Transmission Case

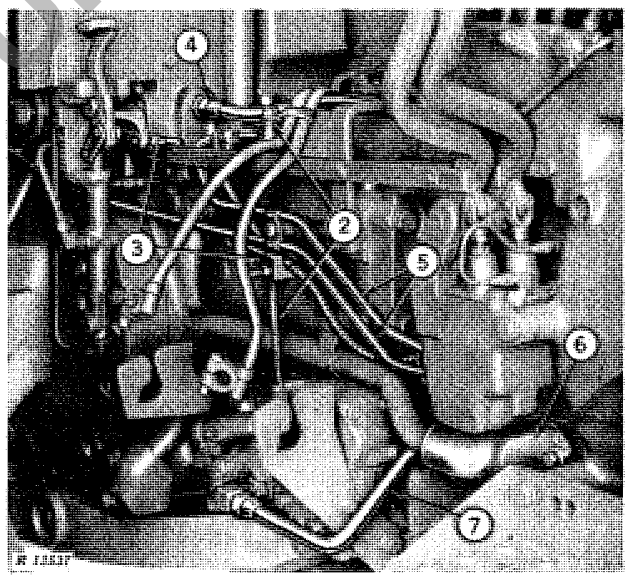


Fig. 4-Right-Hand Side Transmission Case

6. Remove transmission oil pump intake elbow.

7. Remove transmission control valve pressure inlet pipe. Loosen transmission control valve to disconnect the shifter rods. If transmission control valve housing gasket is in poor condition, remove the valve housing.

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

COOLING SYSTEM
- Type ..... Pressurized system with centrifugal pump
- Engine temperature control ..... Heavy-duty thermostat

LUBRICATION SYSTEM
- Type ..... Force-feed, pressurized with full-flow oil filter.

FUEL SYSTEM
- Diesel ..... Direct injection, inlet metering, distributing-type. Diaphragm-type fuel pump.
- Gasoline ..... Pressure system, diaphragm-type fuel pump, single barrel, up-draft carburetor.

CAPACITIES
- Fuel tank:
  - Diesel and Gasoline ..... 26 U.S. gals.
- Crankcase:
  - Dry measurement ..... 7 U.S. qts.
  - Refill (includes filter change) ..... 6 U.S. qts.
- Transmission:
  - Syncro-Range ..... 8 U.S. gals.
  - Power Shift ..... 11 U.S. gals.
- Cooling system ..... 14 U.S. qts.
- Belt Pulley ..... 2-1/2 U.S. pints

ELECTRICAL SYSTEM
- Starter, alternator, lights, and accessory voltage ..... 12 volts
- Charging system capacity ..... 35 amps
- Battery:
  - Gasoline ..... One, 12-volt, 78-plate 78-ampere-hour
  - Diesel ..... Two, 6-volt, 75-plate 172-ampere-hour

SYNCRO-RANGE TRANSMISSION
- Transmission clutch ..... One dry-disk, foot operated
- PTO clutch ..... One dry-disk, hydraulically actuated, lever operated
- Transmission type ..... Constant-mesh, helical gear, syncronized shifting within stations
- Speeds ..... 8 forward; 2 reverse

Ground speed (Row-crop tractor with 13.6-38 rear tires; engine at 2500 rpm):

1st	1.8 mph
2nd	2.8 mph
3rd	3.6 mph
4th	4.7 mph
5th	5.7 mph
6th	7.7 mph
7th	9.6 mph
8th	15.8 mph
1st Reverse	3.6 mph
2nd Reverse	5.6 mph

POWER SHIFT TRANSMISSION
- Engine disconnect ..... One dry-disk, lever operated clutch
- PTO clutch ..... Wet disk, hydraulically actuated, lever operated
- Transmission type ..... Planetary gears, clutches and brakes wet disk, hydraulically actuated, controlled by speed selector
- Speeds ..... 8 forward; 4 reverse

Ground speed (Row-crop tractor with 13.6-38 rear tires; engine at 2500 rpm):

1st	1.7 mph
2nd	2.4 mph
3rd	3.7 mph
4th	4.8 mph
5th	6.1 mph
6th	7.9 mph
7th	10.5 mph
8th	17.5 mph
1st Reverse	1.9 mph
2nd Reverse	2.8 mph
3rd Reverse	4.3 mph
4th Reverse	5.6 mph

Litho in U.S.A.

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

Insufficient spring tension on points
Excessive play in distributor shaft
Incorrect ignition timing
Faulty distributor advance
Cracked distributor cap
Leaks in ignition wiring

Lack Of Power

Basic Engine Problem—See This Section
Blown cylinder head gasket
Worn camshaft lobes
Incorrect valve clearance
Burned, warped, pitted or sticking valves
Weak valve springs
Incorrect valve timing
Low compression
Wrong oil viscosity
Coolant temperature above or below normal
Engine overheating
Incorrect throttle linkage
Governor malfunction

Fuel System Malfunction—See Section 30
Plugged fuel filters
Dirty or obstructed air cleaner
Faulty fuel pump
Faulty fuel injection pump
Faulty injection nozzles
Faulty carburetor
Improper fuel

Electrical System Malfunction—See Section 40
Spark plugs dirty or gapped incorrectly
Incorrect ignition timing
Weak coil or condenser

Power Train Malfunction—See Section 50
Clutch slipping

Engine Overheats

Basic Engine Problem—See This Section
Defective head gasket
Incorrect timing
Crankcase oil level low
Low coolant level
Radiator or side grille screen dirty
Loose or broken fan belt
Faulty thermostat
Cooling system lined up
Defective radiator pressure cap
Faulty water pump

Fuel System Malfunction—See Section 30
Injection pump delivering too much fuel
Improper fuel
Carburetor adjusted too lean

Electrical System Malfunction—See Section 40
Distributor advance sticking

Excessive Oil Consumption

Basic Engine Problem—See This Section
Restricted oil passages from valve cover
Worn valve guides or valve stems
Oil control rings worn or broken
Scored liners or pistons
Excessive ring groove wear in piston
Rings sticking in piston ring grooves
Piston oil return slots clogged
Insufficient piston ring tension
Piston ring gaps aligned
Worn crankshaft thrust washer (misaligned piston and rod)
Excessive main or connecting rod clearance
Faulty front or rear crankshaft oil seals
Crankcase oil too thin
Oil pressure too high
Oil level too high

Fuel System Malfunction—See Section 30
Restricted air intake

Low Oil Pressure

Basic Engine Problem—See This Section
Excessive main or connecting rod bearing clearance
Low oil level
Internal oil leaks
Improper regulating valve adjustment
Improper oil

Electrical System Malfunction—See Section 40
Defective oil pressure indicator lamp
Faulty oil pressure sending unit

High Oil Pressure

Basic Engine Problem—See This Section
Stuck or improperly adjusted regulating valve
Stuck or faulty filter bypass valve

Excessive Fuel Consumption

Basic Engine Problem—See This Section
Low compression
Incorrect timing

Litho in U.S.A.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

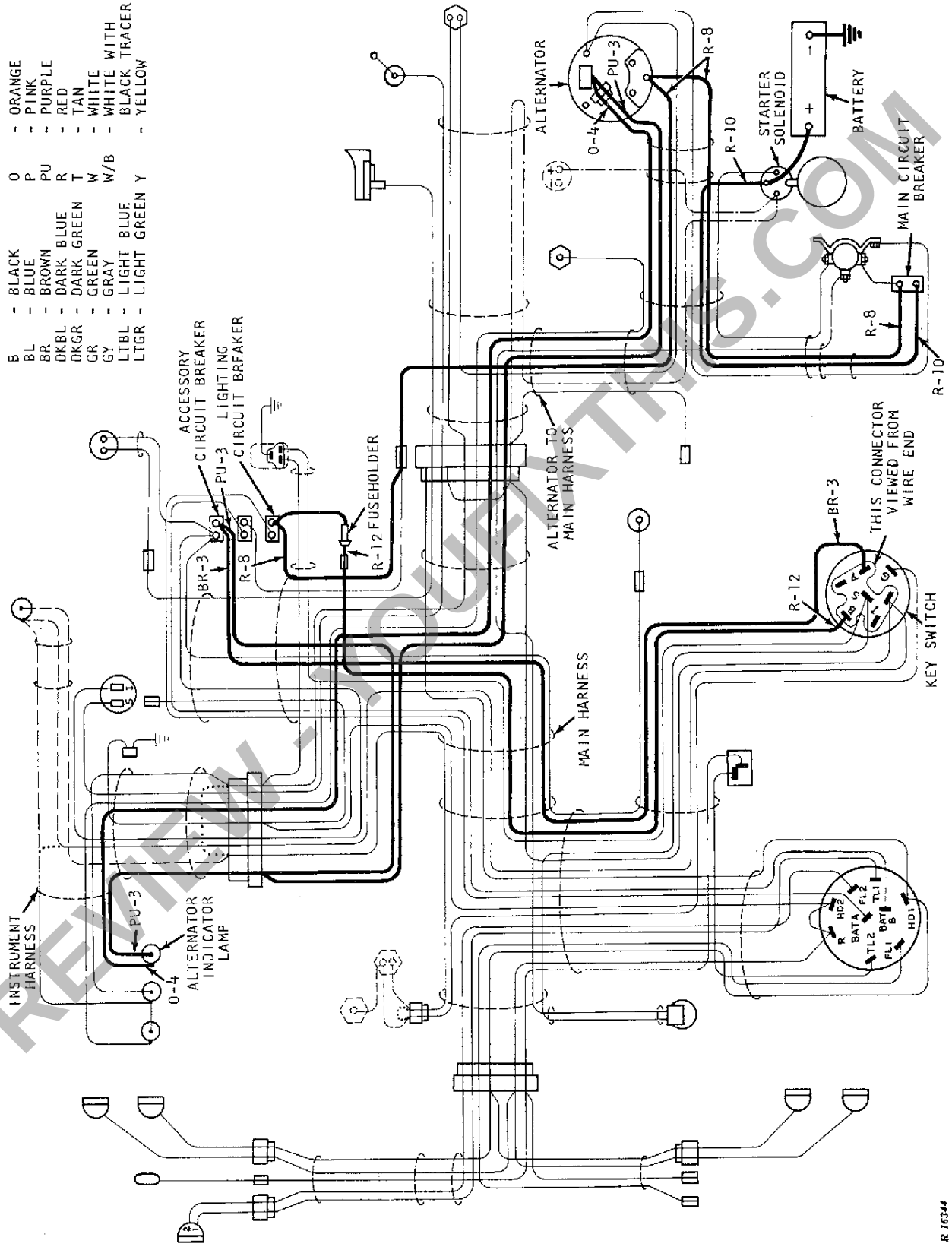


Fig. 4-Charging Circuit for Tractors Serial Number 19542 and After

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

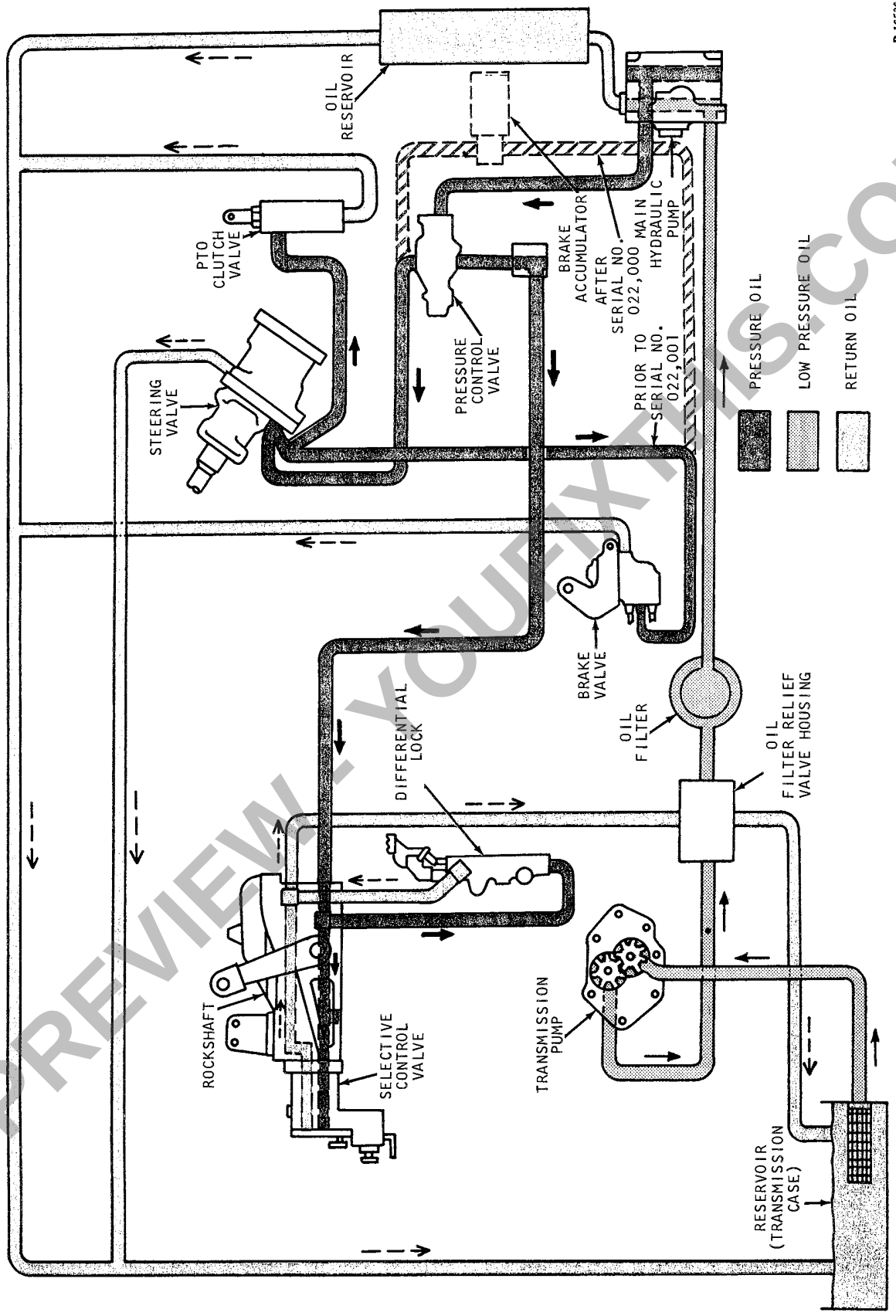


Fig. 1-Circuit Flow Diagram

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Item	New Part	Wear Tolerance
O.D. of valve stem (standard)	0.3715 to 0.3725 in.	
I.D. of valve guide	0.3745 to 0.3755 in.	0.3765 in.
Clearance between guide and stem	0.002 to 0.004 in.	0.0060 in.
Oversize valves available	0.003, 0.015, 0.030 in.	
Angle of valve face:		
Diesel	43.5°	
Gasoline	44°	
Angle of valve seat	45°	
Concentricity of valve seat with guide	0.0020 in. runout	
Width of valve seat:		
Diesel	1/16 to 5/64 in.	
Gasoline	5/64 to 3/32 in.	
Valve recessed in head		
Intake	0.023 to 0.047 in.	
Exhaust	0.038 to 0.072 in.	
Maximum material removed from cylinder head	0.030 in.	
O.D. of rocker arm shaft	0.7869 to 0.7879 in.	0.7899 in.
I.D. of rocker arm bore	0.7900 to 0.7920 in.	0.7940 in.

CAMSHAFT

O.D. camshaft bearing journal	2.1997 to 2.2007 in.	2.2017 in.
I.D. camshaft bearing bore	2.2042 to 2.2052 in.	2.2062 in.
Journal clearance	0.0070 in.	0.0090 in.
End thrust taken at front by	Thrust plate	
End play	0.0025 to 0.0085 in.	0.015 in.
Thrust plate thickness	0.1560 to 0.1580 in.	0.1630 in.

TORQUES FOR HARDWARE

LOCATION	Torque (ft-lbs)
Rocker arm support to cylinder head cap screws	35
Cylinder head to block cap screws	110
Spark plugs	32-38
Injection nozzle	20
Fan to fan hub cap screws	20
Intake manifold cap screws	35
Exhaust manifold cap screws	35
Camshaft thrust plate to block cap screws	35
Upper idler gear to block cap screw	85
Timing gear cover to block cap screws	30
Hydraulic pump drive coupling cap screws	20
Engine front support to cylinder block	
9/16 in. cap screw	130
5/8 in. cap screw	170
Hydraulic pump to engine front support	85
Side frames to engine front support and flywheel housing	250
Crankshaft pulley to crankshaft	85

Litho in U.S.A.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

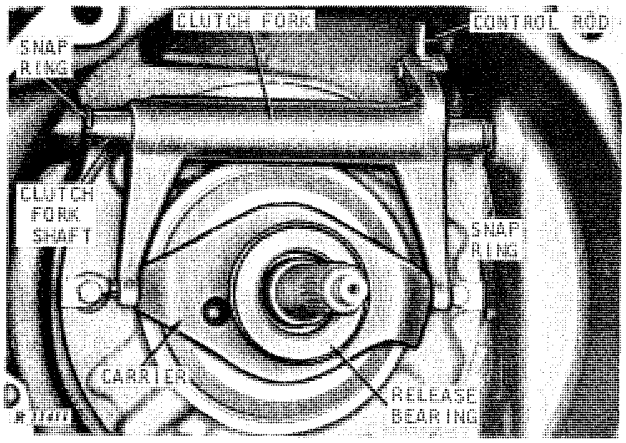


Fig. 5-Release Bearing Assembly

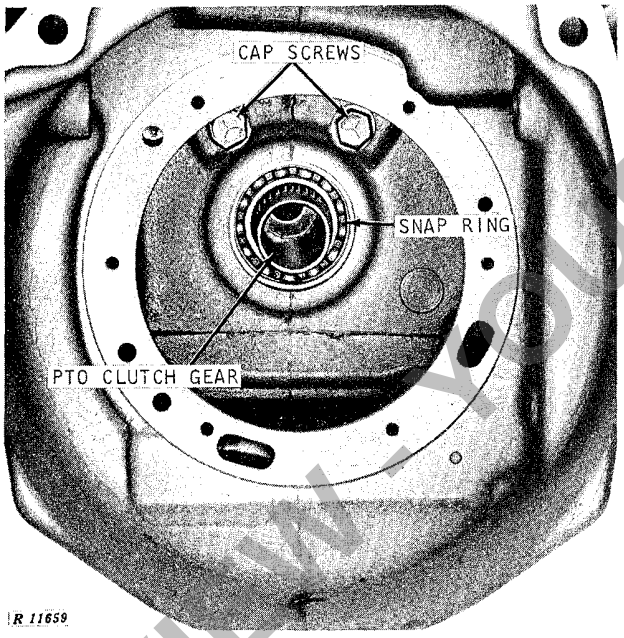


Fig. 6-PTO Clutch Gear

Disconnect clutch rod. Remove clutch fork shaft snap rings, shaft, fork, and bearing carrier.

Remove transmission pump and clutch pack assembly. Remove two hidden cap screws (Fig. 6).

Remove C1 and C2 clutch shafts. If necessary, use slide hammer puller, special pulling tool (Fig. 17), and cotter pin or small pin.

Remove mid PTO quill. If necessary, deburr the PTO shaft or tape the shaft to protect the seal.

Move drawbar to extreme rearward position. Place supports at rear of drawbar and at front of transmission case.

Install a suitable lift sling and remove clutch housing assembly.

ASSEMBLY

Before assembling, check to see that the PTO thrust washers, PTO brake piston, and brake return spring are in position (Figs. 7 and 8). Remove Caplugs from oil passages and install gasket and O-rings.

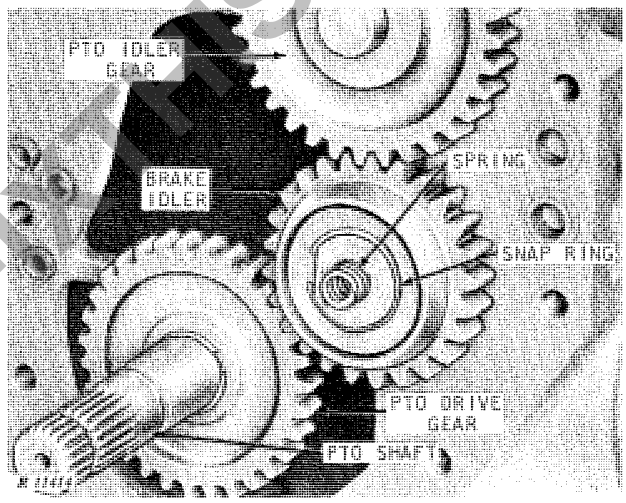


Fig. 7-PTO Drive Gears

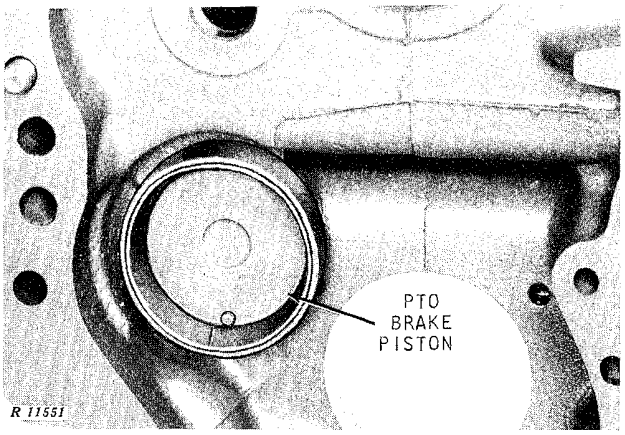


Fig. 8-PTO Brake

Litho in U.S.A.

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

POWER TAKE-OFF
- Type ..... Single 1-3/8-inch rear PTO shaft with mid and power take-off. Rear output shafts changed for rear PTO speed conversion.
- PTO Speed (2100 engine rpm):
  - Mid PTO ..... 1000 rpm
  - Rear PTO ..... 540 or 1000 rpm
- Rear PTO Ahead of Drawbar Hitch Point:
  - 540 rpm ..... 14 in.
  - 1000 rpm ..... 15.94 in.
- PTO Shaft Above Ground:
  - Row-Crop ..... 24 in.
  - Hi-Crop ..... 39.28 in.

BELT PULLEY
- Diameter ..... 12 in.
- Width ..... 8-1/2 in.
- Pulley speed (2100 engine rpm) ..... 978 rpm
- Belt speed ..... 3074 fpm

HYDRAULIC SYSTEM
- Type ..... Closed center, constant pressure. Actuates power steering, power brakes, implement control, transmission-differential lubrication, and, in Power Shift tractors, transmission speed shifting.
- Standby pressure ..... 2250 psi

BRAKES
- Type ..... Hydraulically actuated power disk type operating in oil.

STEERING
- Type ..... Hydraulically actuated power, manual operation in case of hydraulic failure.

REAR AXLES
- Diameter ..... 2.88 in.
- Bearings ..... Four taper roller
- Types available ..... Regular, long, and extra long

REAR TIRES

Row-Crop	12.4-38,	4-ply
	13.6-38,	6-ply
	15.5-38,	6-ply
Cane and Rice	13.6-38,	6-ply
	15.5-38,	6-ply
Hi-Crop	13.6-38,	6-ply
	15.5-38,	6-ply
Cane and Rice	15.5-38,	6-ply

FRONT TIRES

Row-Crop	6.00-14,	4-ply
	6.00-16,	6-ply
	7.50-15,	6-ply
	7.50-16,	10-ply
	9.00-10,	8-ply
	9.5L-15,	6-ply
Hi-Crop	7.50-18,	6-ply
	7.50-20,	6-ply

FRONT WHEEL TREAD ADJUSTMENT
- Row-Crop:
  - Adjustable front axle
    - (Regular) ..... 48.50 to 82.25 in.
    - (Wide) ..... 56.50 to 90.25 in.
- Hi-Crop:
  - Adjustable front axle ..... 60.00 to 89.25 in.

REAR WHEEL TREAD ADJUSTMENT
- Row-Crop:
  - Regular wheel:
    - Regular axle ..... 56 to 88 in.
    - Long axle ..... 56 to 98 in.
  - Offset wheel:
    - Long axle ..... 56 to 104 in.
    - Extra long axle ..... 60 to 120 in.
- Hi-Crop:
  - Flanged axle ..... 60 to 98 in.
  - Rack and pinion axle ..... 73 to 97 in.

Litho in U.S.A.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Fuel System Malfunction—See Section 30
- Leaks in fuel system
- Restricted air cleaner
- Faulty injection nozzles
- Faulty injection pump
- Faulty fuel pump
- Faulty carburetor

Electrical System Malfunction—See Section 40
- Fouled spark plugs

Black Or Grey Exhaust Smoke

Basic Engine Problem—See This Section
- Incorrect timing

Fuel System Malfunction—See Section 30
- Improper fuel
- Excessive fuel delivery
- Restricted air cleaner
- Defective muffler
- Faulty injection nozzles
- Faulty carburetor

White Exhaust Smoke

Basic Engine Problem—See This Section
- Low compression
- Incorrect timing

Fuel System Malfunction—See Section 30
- Faulty injection nozzles
- Improper fuel

Slow Acceleration

Fuel System Malfunction—See Section 30
- Faulty injection pump
- Faulty injection nozzles
- Faulty carburetor

Electrical System Malfunction—See Section 40
- Distributor advance sticking
- Defective coil or condenser
- Pitted, burned or dirty breaker points

Detonation Or Pre-ignition

Basic Engine Problem—See This Section
- Carbon buildup in compression chamber
- Worn valve seats or guides
- Damaged piston rings
- Faulty cooling system

Fuel System Malfunction—See Section 30
- Improper fuel
- Faulty injection pump
- Oil picked up by intake air stream
- Faulty injection nozzles

Electrical System Malfunction—See Section 40
- Spark plug failure
- Distributor advance sticking
- Incorrect ignition timing

Engine Backfires

Fuel System Malfunction—See Section 30
- Faulty carburetor

Electrical System Malfunction—See Section 40
- Spark plug cables installed incorrectly
- Distributor advance sticking

Abnormal Engine Noise

Basic Engine Problem—See This Section
- Excessive valve clearance
- Worn cam followers
- Bent push rods
- Worn rocker arm shaft
- Worn main or connecting rod bearings
- Foreign material in combustion chamber
- Worn piston pins and pin bushings
- Scored pistons
- Incorrect timing
- Excessive crankshaft end play
- Loose main bearing caps
- Worn gears
- Broken oil pump shaft
- Low engine oil level

Governor Malfunction—See Group 35

Engine Hunts Or Surges

- Control linkage worn, sticking or out of adjustment
- Flat spots worn on weights
- Groove worn in governor spool

Engine Will Not Reach Full Throttle

- Improper governor-to-carburetor adjustment
- Wrong or weak governor spring (binding)
- Incorrect throttle stop adjustment
- Binding or worn linkage

Engine Will Not Return To Slow Idle

- Governor linkage or weights sticking
- Speed control linkage worn or binding

Litho in U.S.A.

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 18 of 312 pages

The full manual includes:

- All 312 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

John Deere 2520 Technical Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual