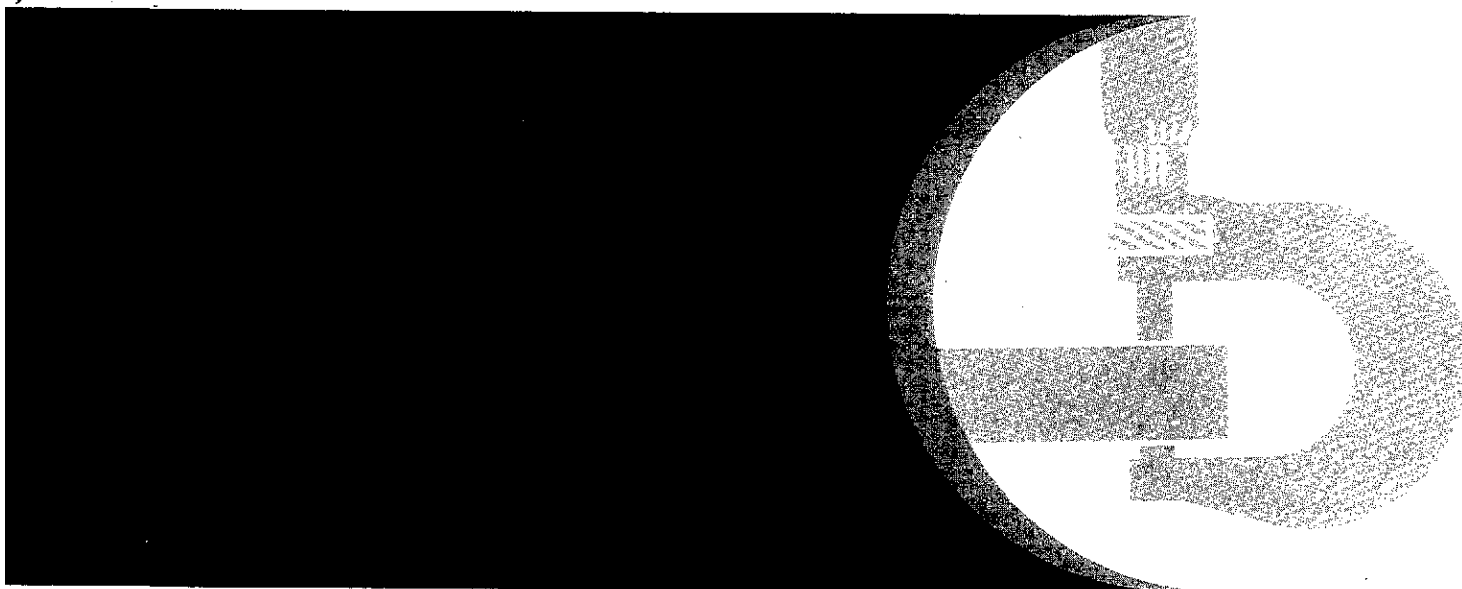


4040 & 4240 Tractors



4040 AND 4240 TRACTORS

TECHNICAL MANUAL

TM-1181 (SEP-77)

CONTENTS—REPAIR SECTIONS

SECTION 10—GENERAL

- Group 00—Specifications and Special Tools
- Group 05—Predelivery, Delivery, and After-Sale Services
- Group 10—Tune-Up
- Group 15—Lubrication
- Group 20—Separation

SECTION 20—ENGINE REPAIR

- Group 00—Specifications and Special Tools
- Group 05—Cylinder Head, Valves, and Camshaft
- Group 10—Cylinder Block, Liners, Pistons, and Rods
- Group 15—Crankshaft, Main Bearings, and Flywheel
- Group 20—Lubricating System
- Group 25—Cooling System

SECTION 30—FUEL AND AIR REPAIR

- Group 00—Specifications and Special Tools
- Group 05—Air Intake System
- Group 10—Diesel Fuel System
- Group 15—Control Linkage

SECTION 40—ELECTRICAL REPAIR

- Group 00—Specifications and Special Tools
- Group 05—Harness Replacement
- Group 10—Charging Circuit
- Group 15—Starting Circuit
- Group 20—Lighting Circuits
- Group 25—Instrument and Accessory Circuits
- Group 30—Power Front-Wheel Drive

SECTION 50—POWER TRAIN REPAIR

- Group 00—Specifications and Special Tools
- Group 05—Perma-Clutch™
- Group 10—Syncro Range Transmission (Also 8-Speed Portion of Quad-Range and Creeper)

SECTION 50—POWER TRAIN REPAIR (Continued)

- Group 15—Creeper Planetary
- Group 20—Quad-Range Planetary and Shifter Assembly
- Group 25—Power Shift Transmission
- Group 30—Dual-Speed PTO
- Group 35—Differential
- Group 40—Final Drive
- Group 45—Power Front-Wheel Drive

SECTION 60—STEERING/BRAKES REPAIR

- Group 00—Specifications and Special Tools
- Group 05—Power Steering
- Group 10—Power Brakes

SECTION 70—HYDRAULIC REPAIR

- Group 00—Specifications and Special Tools
- Group 05—Miscellaneous Hydraulic Components
- Group 10—Hydraulic Pumps
- Group 15—Rockshaft and Implement Hitches
- Group 20—Selective Control Valve and Remote Cylinder

SECTION 80—MISCELLANEOUS

- Group 00—Specifications and Special Tools
- Group 05—Front Axles
- Group 10—Wheels

SECTION 90—OPERATOR STATION REPAIR

- Group 00—Specifications and Special Tools
 - Group 05—Air Conditioning System
 - Group 10—Heating System
 - Group 15—Seat
 - Group 20—Miscellaneous Components
- (Continued on page 2)

All information, illustrations and specifications contained in this technical manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

CONTENTS—OPERATION AND TESTS SECTIONS

SECTION 220—ENGINE OPERATION AND TESTS

- Group 00—Specifications and Special Tools
- Group 05—System Operation
- Group 10—System Tests and Diagnosis

SECTION 230—FUEL/AIR OPERATION AND TESTS

- Group 00—Specifications and Special Tools
- Group 05—Air Intake System
- Group 10—Diesel Fuel System
- Group 15—Control Linkage

SECTION 240—ELECTRICAL OPERATION AND TESTS

- Group 00—Specifications and Special Tools
- Group 05—General Information and Diagrams
- Group 10—Charging Circuit
- Group 15—Starting Circuit
- Group 20—Lighting Circuits
- Group 25—Instrument and Accessory Circuits
- Group 30—Power Front-Wheel Drive
- Group 35—Electrical Remote Control and Outlet Socket

SECTION 250—POWER TRAIN OPERATION AND TESTS

- Group 00—Specifications and Special Tools
- Group 05—Perma-Clutch Systems Operation
- Group 10—Perma-Clutch Systems Tests
- Group 15—Power Shift Transmission Operation
- Group 20—Power Shift Transmission Tests
- Group 25—Differential and Final Drive
- Group 30—Power Front-Wheel Drive

SECTION 260—STEERING/BRAKES OPERATION AND TESTS

- Group 00—Specifications and Special Tools
- Group 05—Power Steering
- Group 10—Power Brakes

SECTION 270—HYDRAULIC OPERATION AND TESTS

- Group 00—Specifications and Special Tools
- Group 05—Hydraulic System Operation
- Group 10—Hydraulic System Tests
- Group 15—Miscellaneous Hydraulic Components
- Group 20—Hydraulic Pumps
- Group 25—Rockshaft and Implement Hitches
- Group 30—Selective Control Valve and Remote Cylinder

SECTION 290—OPERATOR STATION OPERATION AND TESTS

- Group 00—Specifications and Special Tools
- Group 05—Air Conditioning System
- Group 10—Heating System

Section 10 GENERAL

CONTENTS OF THIS SECTION

	Page		Page
GROUP 00—SPECIFICATIONS		GROUP 15—LUBRICATION	
General Tractor Specifications	10-00-1	Lubricants	10-15-1
Predelivery	10-00-4	Engine	10-15-2
Tune-Up	10-00-5	Transmission-Hydraulic System	10-15-3
Lubrication	10-00-5	Hi-Crop Final Drive Housings	10-15-5
Separation	10-00-6	Front Wheel Bearings	10-15-6
Special Tools	10-00-7	Grease Fittings	10-15-6
GROUP 05—PREDELIVERY, DELIVERY, AND AFTER-SALE SERVICES		GROUP 20—SEPARATION	
Dealer Predelivery Service	10-05-1	Removing SOUND-GARD® Body without Control Support	10-20-1
Inspection Checks	10-05-11	Removing SOUND-GARD Body with Control Support	10-20-5
Dealer Service	10-05-13	Separating Engine from Clutch Housing	10-20-10
After-Sale Inspection	10-05-14	Removing Front End	10-20-14
GROUP 10—TUNE-UP		Removing Engine	10-20-18
Preliminary Engine Testing	10-10-1	Separating Clutch Housing from Power Shift Transmission Case	10-20-21
Engine Tune-Up	10-10-1	Separating Clutch Housing from QUAD-RANGE™ Transmission Case ..	10-20-24
Operation	10-10-7	Removing Rear Axle Housing	10-20-26
General	10-10-7		

Group 00 SPECIFICATIONS AND SPECIAL TOOLS GENERAL TRACTOR SPECIFICATIONS

4040

4240

HORSEPOWER (Factory observed PTO

horsepower at 2200 rpm) 90 hp (67 kW)

110 hp (82 kW)

ENGINE:

Type	6-cylinder, in-line, valve-in-head, diesel	6-cylinder, in-line, valve-in-head, diesel
Slow idle speed	800 rpm	800 rpm
Working speed range	1500 to 2200 rpm	1500 to 2200 rpm
Bore and stroke	4.25 x 4.75 in. (108 x 121 mm)	4.56 x 4.75 in. (116 x 121 mm)
Displacement	404 cu. in. (6.6 L)	466 cu. in. (7.6 L)
Compression ratio	16.7 to 1	17.0 to 1
Firing order	1-5-3-6-2-4	1-5-3-6-2-4
Valve clearance		
Intake	0.018 in. (0.46 mm)	0.018 in. (0.46 mm)
Exhaust	0.028 in. (0.71 mm)	0.028 in. (0.71 mm)
Injection pump timing	TDC	TDC
Lubrication system	force-feed, pressurized with full-flow filter	force-feed, pressurized with full-flow filter

	4040	4240
FUEL SYSTEM		
Type	direct injection	direct injection
Injection pump type	distributor	distributor
Air cleaner	dry type with safety element	dry type with safety element
COOLING SYSTEM		
Type	dual-pressure with centrifugal pump	dual pressure with centrifugal pump
Temperature control	dual heavy duty thermostats	dual heavy duty thermostats
CAPACITIES		
Fuel tank	37 U.S. gal. (140 L)	46 U.S. gal. (176 L)
Cooling system	24 U.S. qts. (23 L)	30 U.S. qts. (28 L)
Crankcase (with filter change)	17 U.S. qts. (16 L)	17 U.S. qts. (16 L)
Transmission-hydraulic system (Drain and fill):		
Power Shift Transmission	11.0 U.S. gal. (41.6 L)	11.0 U.S. gal. (41.6 L)
QUAD-RANGE or Syncro-Range		
Transmission	13.0 U.S. gal. (49.2 L)	13.0 U.S. gal. (49.2 L)
Add for power front-wheel drive	4.0 U.S. gal. (15.1 L)	4.0 U.S. gal. (15.1 L)
Transmission-hydraulic system (Dry, production fill):		
Power Shift Transmission	15.9 U.S. gallons (60.3 L)	15.9 U.S. gallons (60.3 L)
QUAD-RANGE or Syncro-Range		
Transmission	15.9 U.S. gal. (60.3 L)	15.9 U.S. gal. (60.3 L)
Add for power front-wheel drive	5.0 U.S. gallons (18.9 L)	5.0 U.S. gal. (18.9 L)
POWER SHIFT TRANSMISSION:		
Type	planetary gears, hydraulically actuated wet disk clutches and brakes	planetary gears, hydraulically actuated wet disk clutches and brakes
Gear selections	8 forward and 4 reverse	8 forward and 4 reverse
Shifting	hydraulic, on-the-go and under load	hydraulic, on-the-go and under load
QUAD-RANGE TRANSMISSION		
Type	2-speed, power-shifted planetary and 8-speed synchronized 16 forward and 6 reverse	2-speed, power-shifted planetary and 8-speed synchronized 16 forward and 6 reverse
Gear selections	hydraulically-operated, multiple- disk wet clutch	hydraulically-operated, multiple- disk wet clutch
Perma-Clutch		
SYNCRO-RANGE TRANSMISSION		
Type	synchronized, constant mesh	synchronized, constant mesh
Gear selections	8 forward and 2 reverse	8 forward and 2 reverse
Shifting	4 stations; synchronized forward speed shifting within stations	4 stations; synchronized forward speed shifting within stations
CREEPER TRANSMISSION		
Type	8-speed Syncro-Range plus 2- speed collar-shifted planetary	8-speed Syncro-Range plus 2- speed collar-shifted planetary
Gear selections	13 forward and 4 reverse	13 forward and 4 reverse
Shifting	same as Syncro-Range plus collar shift between ranges	same as Syncro-Range plus collar shift between ranges
POWER TAKE-OFF:		
Type	fully independent, dual-speed	fully independent, dual-speed
Speeds (2200 engine rpm)	1000 rpm or independent 540 and 1000 rpm	1000 rpm or independent 540 and 1000 rpm
Size	1-3/8 in. (35 mm)	1-3/8 in. (35 mm)
Clutch	hydraulically-operated, multiple- disk wet clutch	hydraulically-operated, multiple- disk wet clutch
POWER FRONT-WHEEL DRIVE:		
Type	hydraulic motor with planetary gear reduction, constant torque and variable speed	hydraulic motor with planetary gear reduction, constant torque and variable speed
Controls	solenoid-operated valves, synchro- nized with transmission controls	solenoid-operated valves, synchro- nized with transmission controls

	4040	4240
HYDRAULIC SYSTEM:		
Type	closed-center, constant-pressure	closed-center, constant-pressure
Standby pressure	2250 psi (155 bar) (155 kg/cm ²)	2250 psi (155 bar) (155 kg/cm ²)
BRAKES:		
Type	hydraulically-operated wet disk	hydraulically-operated wet disk
ELECTRICAL SYSTEM:		
Type	12-volt, negative ground	12-volt, negative ground
Batteries	two, 6-volt, 5D group, 800 amps cold cranking, 376 minutes reserve capacity	two, 6-volt, 5D group, 800 amps cold cranking, 376 minutes reserve capacity
Alternator	72-amp with SOUND-GARD body, 61-amp without	72-amp with SOUND-GARD body, 61-amp without
TIRES AND THREADS:	see page 05-6 in this section	see page 05-6 in this section
DIMENSIONS:		
Wheelbase	104.0 in. (2 642 mm)	105.7 in. (2 709 mm)
Overall length	153.2 in. (3 892 mm)	156.6 in. (3 977 mm)
Height to muffler cover*		
Tractors with SOUND-GARD body	119.8 in. (3 040 mm)	123.0 in. (3 122 mm)
Tractors without SOUND-GARD body	111.8 in. (2 837 mm)	115.0 in. (2 918 mm)
Height to top of SOUND-GARD Body*	109.3 in. (2 775 mm)	114.1 in. (2 895 mm)
Overall width (regular axle)	90 in. (2 277 mm)	90 in. (2 277 mm)
Width at fender	82 in. (2 082 mm)	82 in. (2 082 mm)
Width at roof	54.4 in. (1 382 mm)	54.4 in. (1 382 mm)
Turning radius	134 in. (3 400 mm)	146 in. (3 700 mm)
SHIPPING WEIGHT**	9630 lbs. (4370 kg)	10,900 lbs. (4975 kg)

*4040 Tractor equipped with 18.4-34 rear tires and 9.5L-15 front tires. 4240 Tractor equipped with 18.4-38 rear tires and 10.00-16 front tires.

**Equipped for average field service, without fuel and ballast. Add approximately 1000 lbs. (450 kg) if equipped with power front-wheel drive.
Subtract 900 lbs. (400 kg) if not equipped with SOUND-GARD Body.

GROUND SPEEDS

Speeds in the following charts are in miles per hour, with kilometers per hour in parenthesis. Speeds are for a 4040 Tractor with 18.4-34 tires or a 4240 Tractor with 18.4-38 tires.

POWER SHIFT TRANSMISSION

Gear	1500 rpm	2200 rpm	1500 rpm	2200 rpm
1	1.1 (1.8)	1.7 (2.7)	1.2 (1.9)	1.8 (2.9)
2	1.6 (2.6)	2.4 (3.9)	1.7 (2.7)	2.5 (4.0)
3	2.5 (4.0)	3.7 (6.0)	2.6 (4.2)	3.8 (6.2)
4	3.2 (5.2)	4.7 (7.6)	3.4 (4.9)	4.9 (7.9)
5	4.2 (6.8)	6.1 (9.8)	4.4 (7.1)	6.5 (10.5)
6	5.4 (8.7)	7.9 (12.7)	5.7 (9.2)	8.3 (13.4)
7	7.1 (11.4)	10.5 (16.9)	7.6 (12.2)	11.2 (18.0)
8	11.9 (19.2)	17.5 (28.2)	12.9 (20.7)	18.9 (30.4)
1R	1.3 (2.1)	1.9 (3.1)	1.5 (2.4)	2.2 (3.5)
2R	1.9 (3.1)	2.8 (4.5)	2.1 (3.4)	3.1 (5.0)
3R	2.9 (4.7)	4.3 (6.9)	3.2 (5.1)	4.7 (7.6)
4R	3.8 (6.1)	5.5 (8.9)	4.1 (6.6)	6.0 (9.7)

GROUND SPEEDS—Continued

QUAD-RANGE TRANSMISSION

Gear	4040		4240	
	1500 rpm	2200 rpm	1500 rpm	2200 rpm
A 1	1.3 (2.1)	1.9 (3.1)	1.4 (2.2)	2.0 (3.2)
2	1.6 (2.6)	2.4 (3.7)	1.8 (2.9)	2.6 (4.2)
3	2.1 (3.4)	3.1 (5.0)	2.3 (3.7)	3.4 (5.4)
4	2.7 (4.3)	4.0 (6.4)	2.9 (4.7)	4.3 (6.9)
1R	2.1 (3.4)	3.0 (4.8)	2.2 (3.5)	3.2 (5.2)
2R	2.6 (4.2)	3.9 (6.3)	2.8 (4.5)	4.1 (6.6)
B 1	3.0 (4.8)	4.4 (7.1)	3.2 (5.1)	4.7 (7.6)
2	3.8 (6.1)	5.6 (9.0)	4.0 (6.5)	5.9 (9.5)
3	4.9 (7.9)	7.2 (11.6)	5.3 (8.5)	7.7 (12.4)
4	6.3 (10.1)	9.2 (14.8)	6.7 (10.8)	9.8 (15.8)
1R	4.8 (7.7)	7.0 (11.3)	5.1 (8.2)	7.5 (11.9)
2R	6.1 (9.8)	8.9 (14.3)	6.5 (10.5)	9.5 (15.3)
C 1	3.5 (5.6)	5.2 (8.4)	3.8 (6.1)	5.5 (8.9)
2	4.5 (7.2)	6.6 (10.6)	4.8 (7.7)	7.0 (11.3)
3	5.8 (9.3)	8.6 (13.8)	6.2 (10.0)	9.2 (14.7)
4	7.4 (11.9)	10.9 (17.5)	7.9 (12.7)	11.6 (18.6)
1R	5.6 (9.0)	8.3 (13.4)	6.0 (9.7)	8.9 (14.2)
2R	7.2 (11.6)	10.5 (16.9)	7.7 (12.4)	11.2 (18.0)
D 1	5.4 (8.7)	8.0 (12.9)	5.8 (9.3)	8.5 (13.7)
2	6.9 (11.1)	10.1 (16.3)	7.3 (11.7)	10.8 (17.4)
3	9.0 (14.4)	13.2 (21.2)	9.6 (15.4)	14.0 (22.6)
4	11.4 (18.3)	16.7 (26.9)	12.2 (19.6)	17.8 (28.7)

SYNCRO-RANGE TRANSMISSION

1	1.3 (2.1)	1.9 (3.1)	1.4 (2.2)	2.0 (3.2)
2	2.1 (3.4)	3.0 (4.8)	2.2 (3.5)	3.2 (5.2)
3	2.7 (4.3)	4.0 (6.4)	2.9 (4.7)	4.2 (6.8)
4	3.5 (5.6)	5.1 (8.2)	3.7 (6.0)	5.4 (8.7)
5	4.3 (7.0)	6.3 (10.2)	4.6 (7.4)	6.8 (10.9)
6	5.7 (9.1)	8.3 (13.4)	6.1 (9.8)	8.9 (14.3)
7	7.3 (11.8)	10.7 (17.3)	7.8 (12.5)	11.5 (18.5)
8	11.9 (19.2)	17.5 (28.2)	12.8 (20.6)	18.8 (30.3)
1R	2.6 (4.2)	3.8 (6.3)	2.8 (4.5)	4.1 (6.6)
2R	4.2 (6.8)	6.2 (10.0)	4.5 (7.2)	6.6 (10.6)
With optional Creeper engaged				
1	0.3 (0.5)	0.4 (0.7)	0.3 (0.4)	0.4 (0.6)
2	0.4 (0.7)	0.6 (1.0)	0.4 (0.7)	0.6 (1.0)
3	0.5 (0.9)	0.8 (1.3)	0.5 (1.0)	0.8 (1.4)
4	0.8 (1.2)	1.1 (1.8)	0.8 (1.2)	1.1 (1.8)
5	0.9 (1.4)	1.3 (2.1)	1.0 (1.6)	1.3 (2.2)
1R	0.5 (0.9)	0.8 (1.3)	0.5 (0.8)	0.8 (1.2)
2R	0.9 (1.4)	1.3 (2.1)	0.9 (1.5)	1.3 (2.2)

(Specifications and design subject to change without notice.)

PREDELIVERY, DELIVERY, AND AFTER-SALE SERVICES

Item	Specification
Toe-in	1/8 to 3/8 inch (3 to 9 mm)
Injection pump timing	TDC
Engine speeds	
Slow idle	780 to 820 rpm
Fast idle	2325 to 2425 rpm
Rated speed at full load	2200 rpm

Torque

	ft-lbs	Nm	kgm
SOUND-GARD Body or Four-Post ROLL-GARD® mounting bolts	150	200	20
Front axle-to-knee bolts:			
Narrow front axle	320	435	44
Regular or wide front axle	370	500	50
Hi-Crop	445	600	60
Front wheel-to-hub bolts	100	135	14
Special bolts on rear hubs	300	410	41
Steel wheel-to-hub bolts	240	325	33
Rim clamp-to-wheel bolts	170	230	23
Rockshaft lift arm retaining bolts	300	410	41
Other nuts and cap screws:			

Bolt Diameter	Plain Head*			Three Radial Dashes*			Six Radial Dashes*		
	ft-lbs	Nm	kgm	ft-lbs	Nm	kgm	ft-lbs	Nm	kgm
1/4 in. (6.35 mm)	6	8	0.8	10	14	1.4	14	19	1.9
5/16 in. (7.93 mm)	13	18	1.8	20	27	2.7	30	41	4.1
3/8 in. (9.53 mm)	23	31	3.1	35	47	4.7	50	70	7.0
7/16 in. (11.11 mm)	35	47	4.7	55	75	7.5	80	110	11
1/2 in. (12.70 mm)	55	75	7.5	85	115	12	120	160	16
9/16 in. (14.29 mm)	75	100	10	130	175	18	175	240	24
5/8 in. (15.88 mm)	105	140	14	170	230	23	240	325	33
3/4 in. (19.05 mm)	185	250	25	300	410	41	425	575	58
7/8 in. (22.23 mm)	160	220	22**	445	600	60	685	930	93
1 in. (25.40 mm)	250	340	34**	670	900	90	1030	1400	140

*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.

TUNE-UP

Item	Specification
PTO horsepower	
4040	90 hp (67 kW)
4240	110 hp (82 kW)
Compression	370 to 400 psi (25.5 to 27.6 bar)
Air cleaner indicator switch closing vacuum	24 to 26 in. (60 to 65 mbar)
Thermostat opening temperature	160 to 180°F (71 to 82°C)
Radiator cap pressure release	
Low pressure cap	6.25 to 7.50 psi (0.4 to 0.5 bar)
High pressure cap	14 to 17 psi (0.9 to 1.2 bar)
Engine speeds	
Slow idle	780 to 820 rpm
Fast idle	2325 to 2425 rpm
Rated speed at full load	2200 rpm

LUBRICATION

Engine crankcase oil capacity	17 U.S. quarts (16 L)
Transmission-hydraulic system	
(Drain and fill):	
Power Shift Transmission	11.0 U.S. gal. (41.6 L)
QUAD-RANGE or Syncro-Range Transmission	13.0 U.S. gal. (49.2 L)
Add for power front-wheel drive	4.0 U.S. gal. (15.1 L)
Transmission-hydraulic system	
(Dry, production fill):	
Power Shift Transmission	15.9 U.S. gal. (60.3 L)
QUAD-RANGE or Syncro-Range Transmission	15.9 U.S. gal. (60.3 L)
Add for power front-wheel drive	5.0 U.S. gal. (18.9 L)
Service intervals	
Check engine oil level	Every 10 hours
Change engine oil	Every 100 hours
Replace engine oil filter	Every 200 hours
Clean crankcase breather filter	Every 200 hours
Check transmission-hydraulic system oil level	Every 200 hours
Replace transmission-hydraulic system oil filter (Quad-Range)	Every 200 hours
Replace transmission-hydraulic system oil filters (Power Shift)	Every 600 hours
Change transmission-hydraulic oil	Every 1200 hours
Clean main hydraulic pump screen	Every 1200 hours
Clean and repack front wheel bearings	Every 1200 hours
Lubricate grease fittings	
Front axle pivot pins, steering spindles, tie rods (10 fittings)	Every 10 hours
Wide-swing drawbar rollers (if equipped)	Every 10 hours
Front wheel bearings (only in extremely wet conditions)	Every 10 hours
3-point hitch	Every 200 hours
Load control shaft bushings	Every 200 hours
Rear axle bearings	Every 600 hours
Vacuum (full speed, full load, clean air filters)	
4040	7.5 to 8.5 in. (19 to 21 mbar)
4240	9 to 10 in. (22 to 25 mbar)

SEPARATION

ITEM	SPECIFICATION
Fan belt tension	New Belt
Single belt	130-140 lbs. (578-622 N)
Dual belt	95-104 lbs. (423-467 N)
	After Run In
All belts	85-94 lbs. (378-423 N)

ITEM	TORQUE
Sound-Gard Body retaining cap screws	150 ft-lbs (203 Nm) (20.3 kgm)
Roll-Gard® (4-post) mounting cap screws	150 ft-lbs (203 Nm) (20.3 kgm)
Engine-to-clutch housing cap screws	1/2 in.—85 ft-lbs (115 Nm) (11.5 kgm)
	3/4 in.—300 ft-lbs (406 Nm) (40.6 kgm)
Clutch housing-to-engine cap screws	300 ft-lbs (406 Nm) (40.6 kgm)
Hydraulic pump support-to-engine cap screws	85 ft-lbs (115 Nm) (11.5 kgm)
Hydraulic pump coupler lock nuts	30 ft-lbs (41 Nm) (4.1 kgm)
Hydraulic pump drive coupling	35 ft-lbs (47 Nm) (4.7 kgm)
Side frames-to-engine	5/8 in.—275 ft-lbs (373 Nm) (37.3 kgm)
	3/4 in.—425 ft-lbs (578 Nm) (57.8 kgm)
Clutch housing-to-transmission case cap screws	5/8 in.—170 ft-lbs (230 Nm) (23 kgm)
	3/4 in.—300 ft-lbs (406 Nm) (40.6 kgm)
Oil filter inlet pipe elbow cap screws	45 ft-lbs (61 Nm) (6.1 kgm)
Axle housing-to-transmission case cap screws	170 ft-lbs (230 Nm) (23 kgm)
Hi-Crop drive shaft housing-to-final drive gear housing	275 ft-lbs (373 Nm) (37.3 kgm)
Radiator hose clamps (clean and dry)	36 in-lbs (4 Nm) (0.4 kgm)
Transmission pump elbow-to-clutch housing cap screws	45 ft-lbs (61 Nm) (6.1 kgm)
Oil pan-to-clutch housing cap screws	85 ft-lbs (115 Nm) (11.5 kgm)
Hose clamps	30 in-lbs (3.4 Nm) (0.3 kgm)

SPECIAL TOOLS**Predelivery, Delivery, and After-Sale Services****TOOL****USE**

JDG-18 Snap Ring Tool

Remove and install snap rings on ends of rear axles

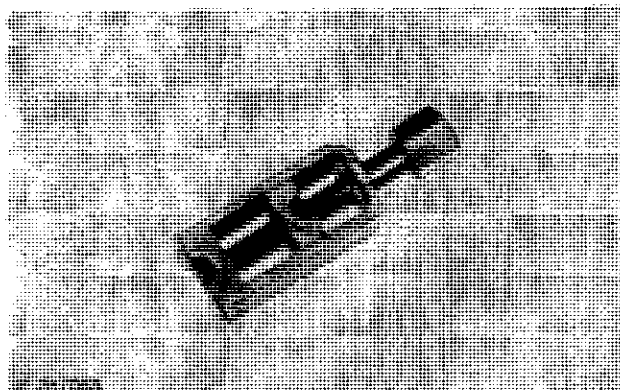
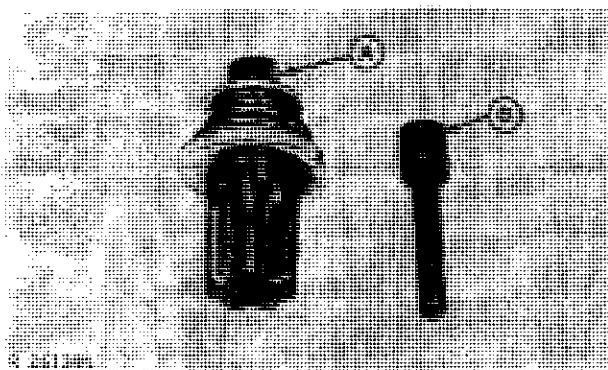


Fig. 1-JDG-18 Snap Ring Tool*

JDE-81-1 Engine Rotation Tool and JDE-81-4 Timing Pin

Turn engine to TDC to check injection pump timing



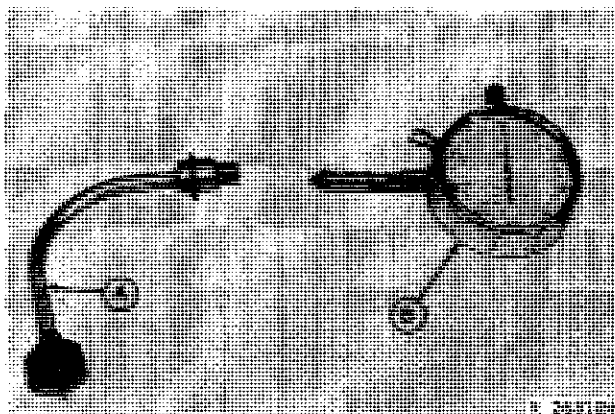
A—JDE-81-1 Engine Rotation Tool*

B—JDE-81-4 Timing Pin*

Fig. 2-Tools Required for Checking Timing

JDE-28 Adapter and Hand Tachometer

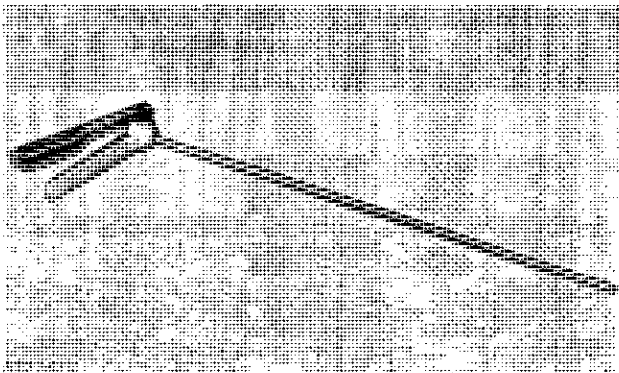
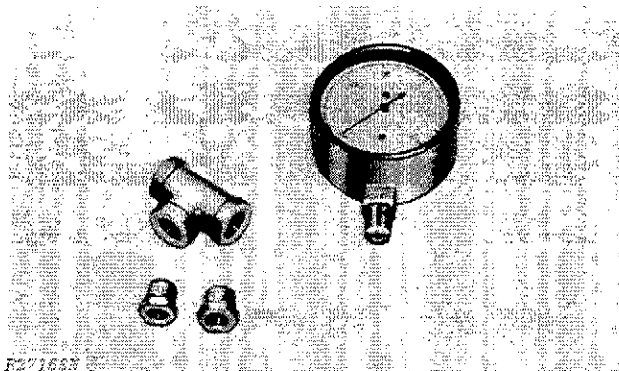
Check engine speeds



A—JDE-28 Adapter*

B—Hand Tachometer

Fig. 3-Tools Required for Checking Engine Speeds

Tune-Up*Fig. 4-AR62377 Dry Element Cleaning Gun**Fig. 5-D-05022ST Water Vacuum Gauge*
(Formerly JDST-11)***TOOL****USE**

JDE-81-1 Engine Rotation
Tool and JDE-81-4 Timing
Pin

Turn engine to TDC to check
injection pump timing

JDE-28 Adapter and Hand
Tachometer

Check engine speeds

AR62377 Dry Element
Cleaning Gun

Clean primary element of
air cleaner

D-05022ST Water Vacuum
Gauge

Measure air intake vacuum

TOOL

NUMBER

USE

BT-11-52 Radiator Tester

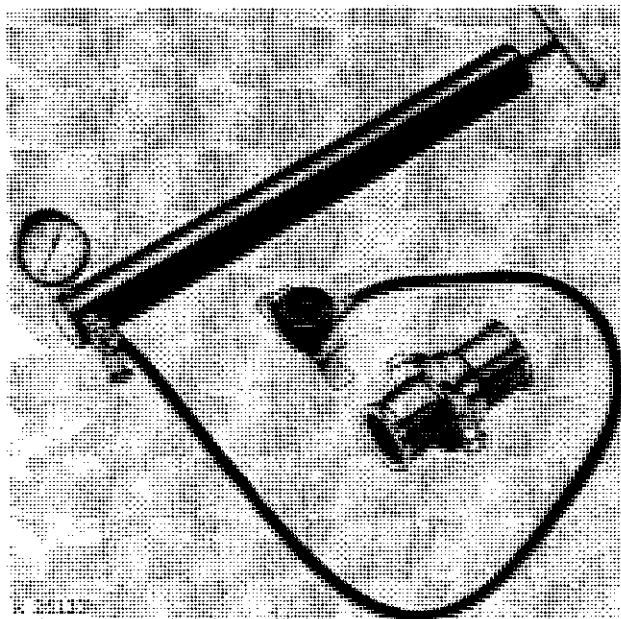
Pressure test cooling system
and radiator caps

Fig. 6-BT-11-52 Radiator Tester*

Separation

Brown Body Lift

To remove Sound-Gard Body.

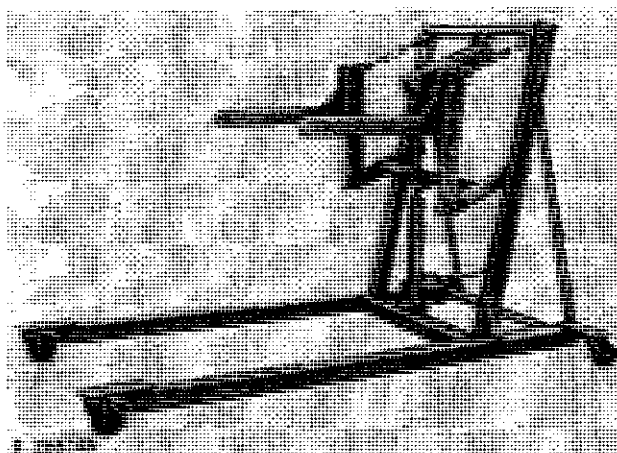


Fig. 7-Brown Body Lift

JDG-21 Fork
Lift Adapters

To remove Sound-Gard Body

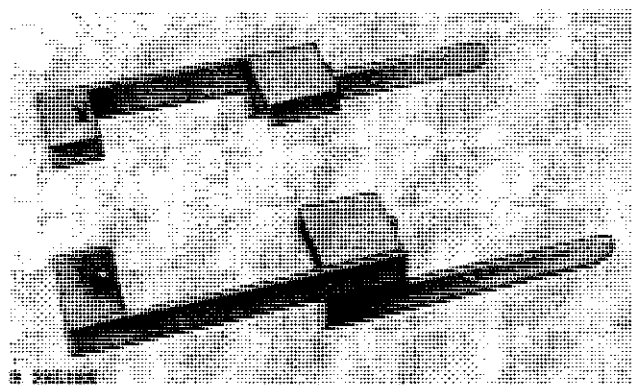


Fig. 8-Fork Lift Adapters

Separation—Continued

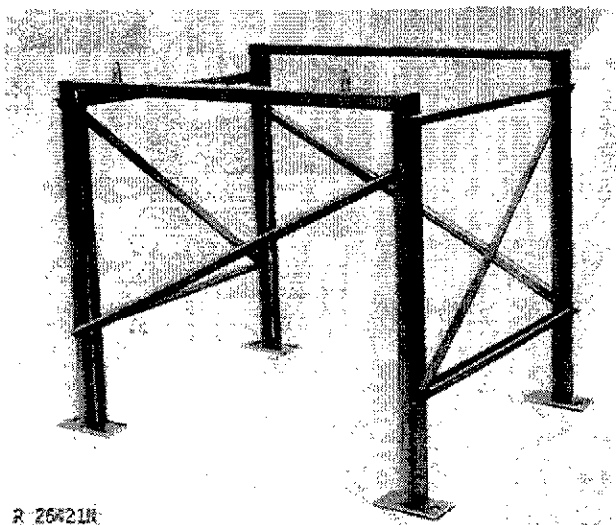
TOOL

NUMBER

USE

JDG-10-2

To support Sound-Gard Body after removal.

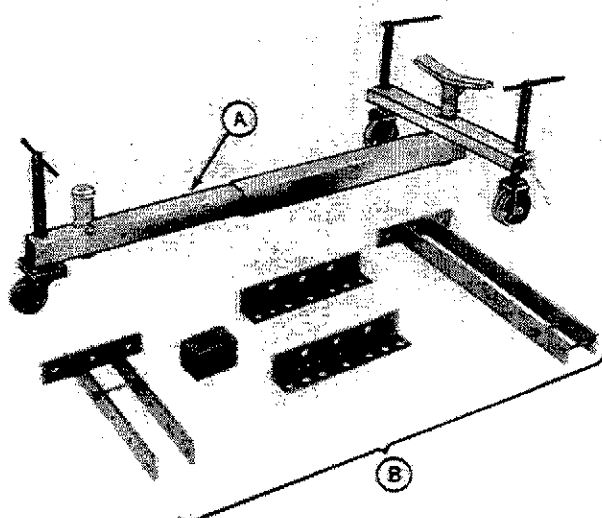


R 26421N

Fig. 9-Sound-Gard Body Stand*

A-D-05007ST
Splitting Stand

To support tractor in various separations.

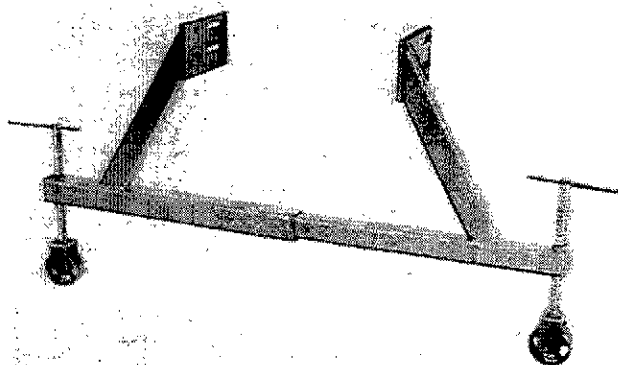
B-D-05149ST
Attachments

R 28086N

Fig. 10-Splitting Stand*

JDG-12-1
Splitting Stand

To support front end of tractor.



R 26619N

Fig. 11-Splitting Stand*

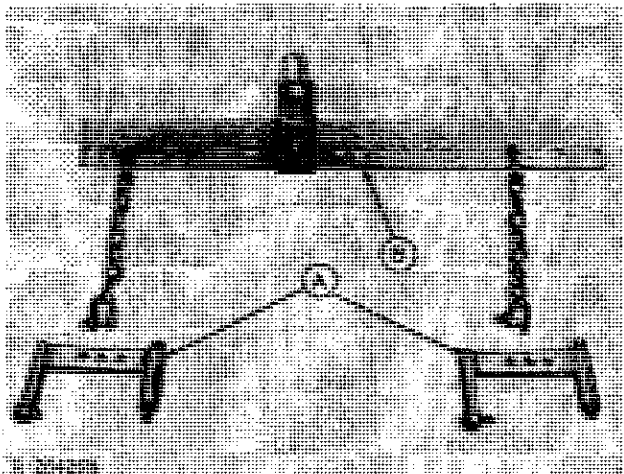
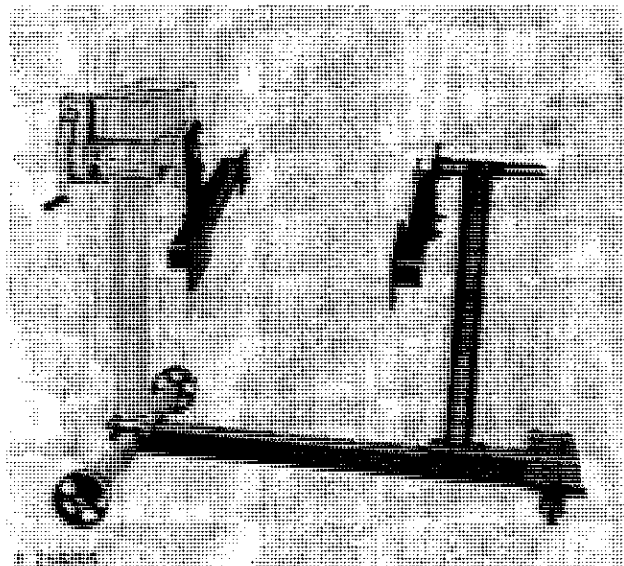
TOOL	NUMBER	USE
	A-JDE-63 Engine Lift Brackets	To remove engine
	B-JDG-23 Engine Lift Sling	
	D-05001ST Repair Stand	To support engine during repair.

Fig. 12-Engine Removal Tools*

Fig. 13-Engine Repair Stand*

*Tools marked with an asterisk can be ordered from Service Tools, Box 314, Owatonna MN 55060.

Group 05

PREDELIVERY, DELIVERY, AND AFTER-SALE SERVICES

The John Deere delivery receipt, when properly filled out and signed by the dealer and customer, verifies that predelivery and delivery services were satisfactorily performed. When delivering the tractor, give the customer his copy of the delivery receipt and operators manual. Be sure to explain their purpose to him.

Because of the shipping factors involved, plus extra finishing touches necessary to promote customer satisfaction, there are certain predelivery services that must be performed by the dealer. These services are listed in the first of two sections on the predelivery form, which is attached to the tractor. The second section is a list of factory inspections that must be verified by the dealer.

Fill the form in completely and sign it. Send copy to the factory and file the original with the shop order for the job. This will certify that the proper predelivery service has been completed.

DEALER PREDELIVERY SERVICE

Using the first part of the predelivery form along with the following illustrated procedures, perform all services listed and check each job off as it is completed.

Lubricate Grease Fittings

Grease all fittings with John Deere AT30408 High Temperature Grease (1 lb. [0.45 kg] can) or its equivalent. TY6281 is the same John Deere High Temperature Grease in a 14 oz. (0.39 kg) cartridge. Lubricant must be an extreme-pressure grease with non-soap base and NGLI No. 2 consistency, and must meet John Deere JDM J13 E4 specifications.

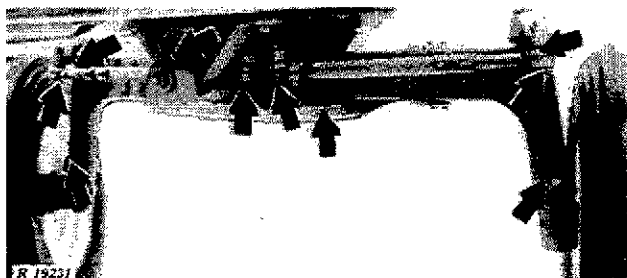


Fig. 1-Grease Fittings

1. Apply several shots of grease to tie rods, pivot pins, and the steering spindles (10 fittings).

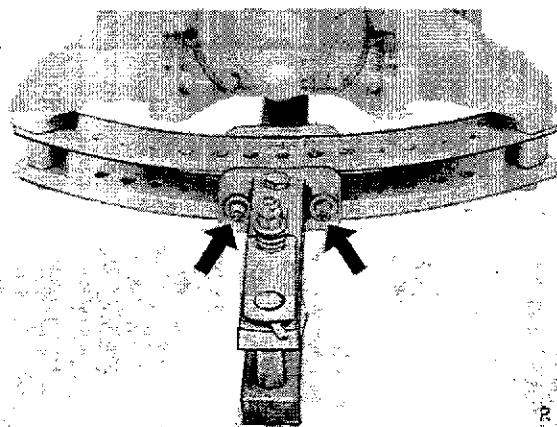


Fig. 2-Wide Swing Drawbar Grease Fittings

2. If tractor is equipped with a wide-swing drawbar (Fig. 2), apply several shots of John Deere High Temperature Grease or its equivalent to drawbar rollers.

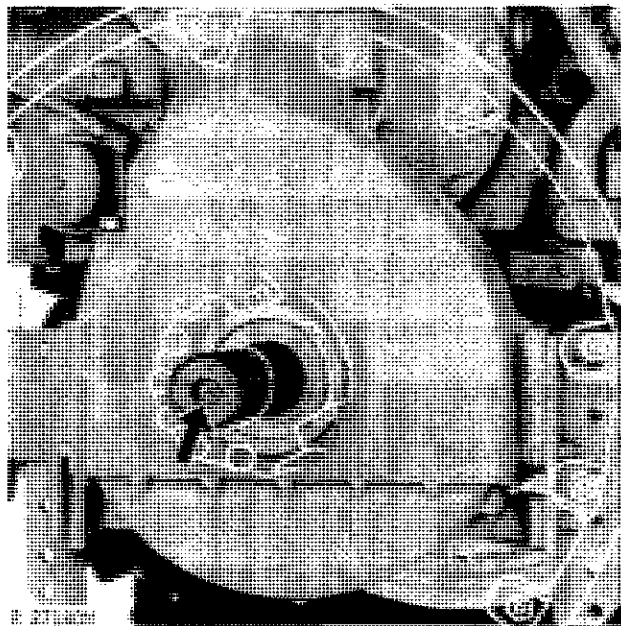


Fig. 3-Hi-Crop Rear Axle Grease Fitting

3. On Hi-Crop tractors, apply several shots of John Deere High Temperature Grease or its equivalent to grease fittings on ends of rear axles.

Lubricate Grease Fittings—Continued



Fig. 4-Radius Rod Pivot Grease Fitting

4. On Hi-Crop tractors, apply several shots of John Deere High Temperature Grease or its equivalent to grease fittings.

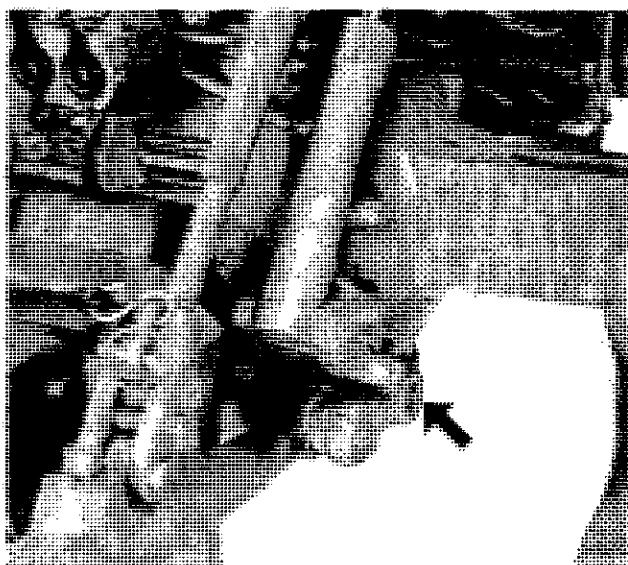


Fig. 5-Load Control Shaft Bushing Grease Fitting

5. Apply several shots of John Deere High Temperature Grease or its equivalent to each load control shaft bushing.

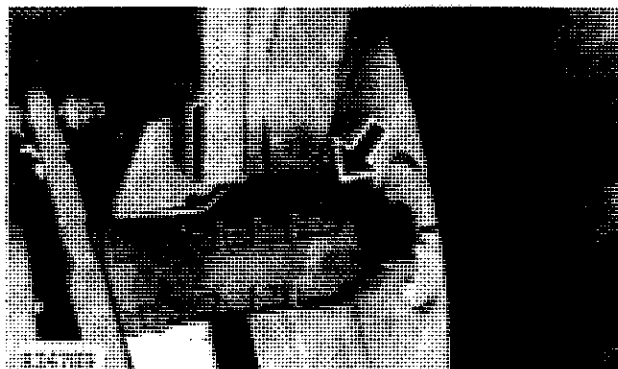


Fig. 6-Rear Axle Grease Plug

6. Grease the rear axle bearings by removing the pipe plug on each end of the axle housing, installing a grease fitting and applying John Deere High Temperature Grease or its equivalent at each fitting. Apply grease until grease appears at seals, or a maximum of 25 shots.

Install Ether Aid Solenoid Wiring (if equipped)

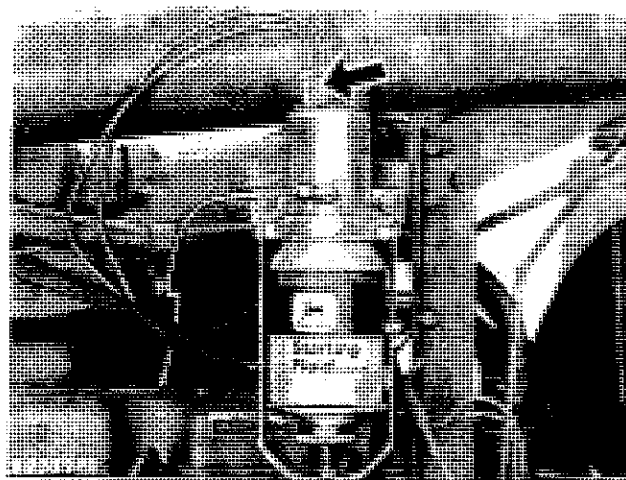


Fig. 7-Electric Starting Aid Connector

Connect starting aid wiring to starting aid solenoid (if equipped).

Align Muffler and Air Stack

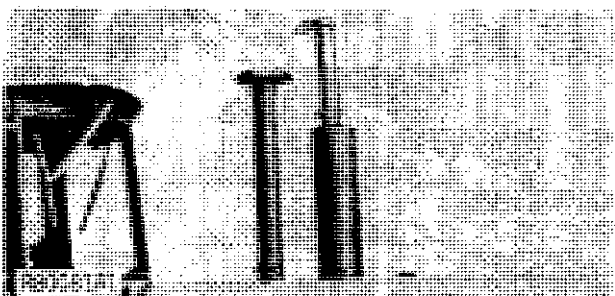


Fig. 8-Muffler and Air Stack

If necessary, align muffler and air stack so they are perpendicular to tractor hood.

Adjust All Lamps

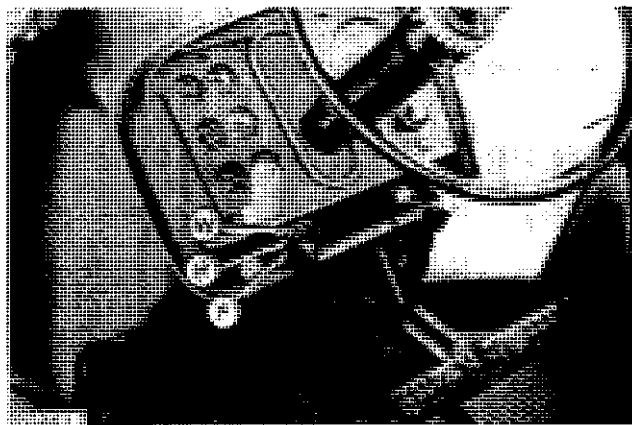


Fig. 9-Light Switch

Make sure lights work properly in the following positions:

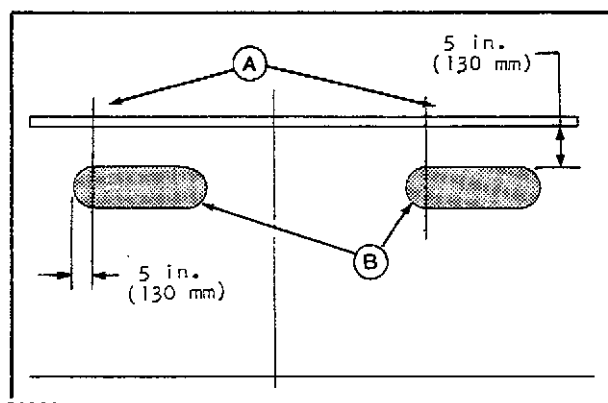
OFF - To turn off lights.

W - To turn on the warning lamps.

H - To turn on the dual-beam head lamps, warning lamps, and red tail lamps.

F - To turn on the dual-beam head lamps and flood lamps.

Head Lamps



R33823

A—Points Directly in Front of Lamps
B—Small Zones of Bright Light

Fig. 10-Checking Head Lamp Positions

1. Park tractor on level ground, 25 feet (8 m) from a wall.

2. Measure height of lamps above ground, and place a strip of masking tape on wall at same height.

3. Sight across steering wheel and hood ornament to locate tractor centerline. Mark this spot, and measure out one foot (300 mm) in each direction. This locates a spot directly in front of each lamp.

4. Turn light switch to "H" and dimmer switch to low beam.

5. Locate small zone of bright light projected by each lamp. Top of bright zone should be five inches (130 mm) lower than lamp, and left edge of zone should be five inches (130 mm) to left of lamp. Cover other lamp if necessary.

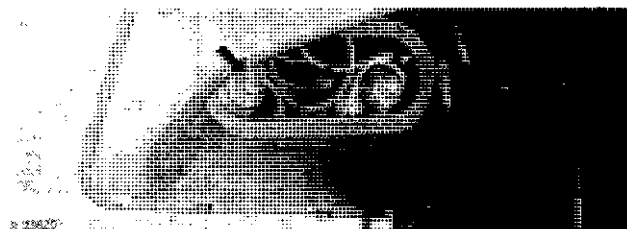


Fig. 11-Head Lamp Adjusting Nut

6. To readjust a bulb, loosen nut behind bulb. Hold lamp in correct position, and tighten securely.

Remove SMV Plastic Cover

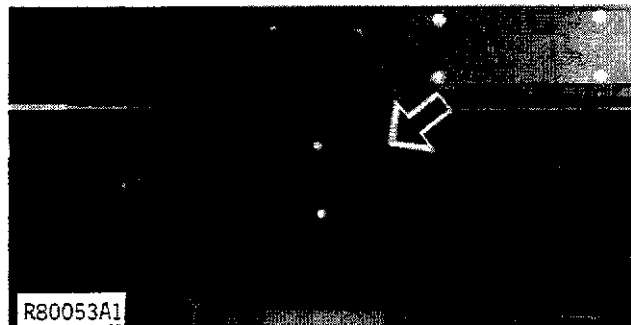


Fig. 12-Plastic Cover

Remove plastic cover from SMV emblem.

Remove Rockshaft Lift Arm Retaining Wire

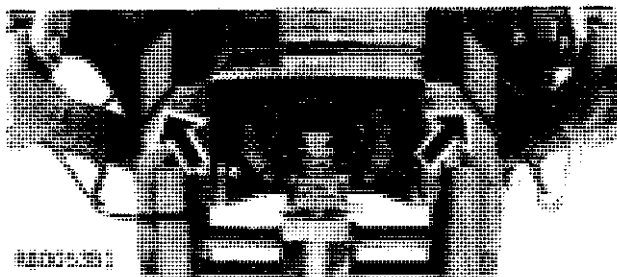
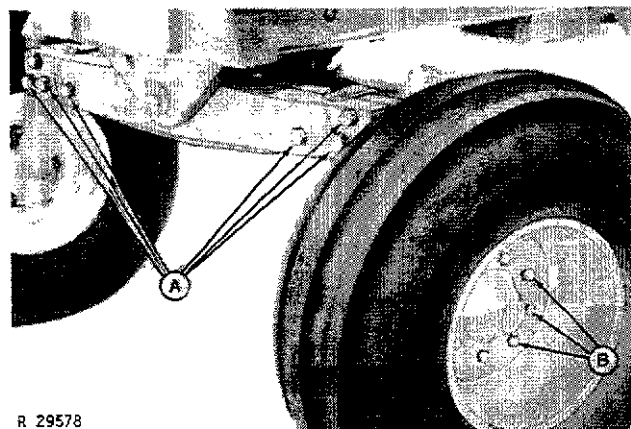


Fig. 13-Retaining Wire

Remove retaining wire from rockshaft lift arms.

Torque Wheel Hardware To Specifications



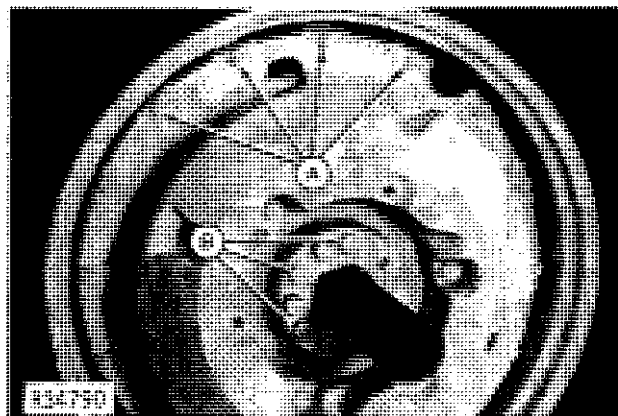
A—Axle Cap Screws

B—Front Wheel Cap Screws

Fig. 14-Front Axle Cap Screws

1. Torque axle cap screws (A, Fig. 14) to 320 ft-lbs (435 N·m) (44 kgm) (Narrow Axle), 370 ft-lbs (500 N·m) (50 kgm) (Regular or Wide Axle) or 445 ft-lbs (600 N·m) (60 kgm) (Hi-Crop).

2. Torque front wheel cap screws to 100 ft-lbs (135 N·m) (14 kgm).



A—Rim Clamp Cap Screws

B—Special Bolts

Fig. 15-Rear Wheel Cap Screws

3. Torque rim clamp cap screws (A, Fig. 15) to 170 ft-lbs (230 N·m) (23 kgm).

4. Torque special bolts (B) to 300 ft-lbs (410 N·m) (41 kgm).

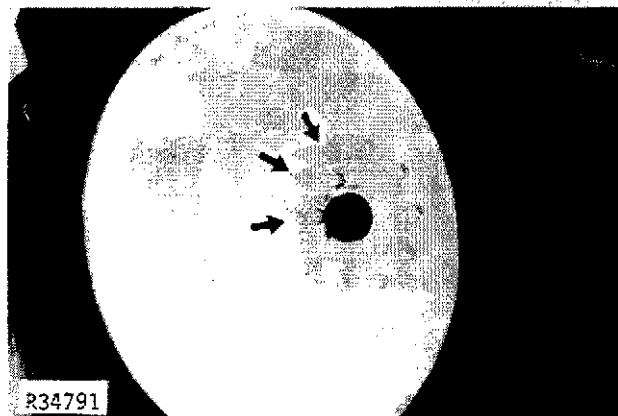


Fig. 16-Rear Wheel Bolts

5. Torque wheel bolts to 300 ft-lbs (410 N·m) (41 kgm) (10-bolt wheel), 240 ft-lbs (325 N·m) (33 kgm) (9-bolt wheel with retaining ring) or 85 ft-lbs (110 N·m) (11 kgm) (9-bolt wheel without retaining ring).

Check Tire Pressure

Make sure tire pressure meets the specifications in the chart below.

Tire Size	Ply Rating	Maximum Pressure
Front Tires		
7.5L-15	6	44 psi (3.1 bar)
7.50-16	6	40 psi (2.8 bar)
7.50-18	6	36 psi (2.5 bar)
7.50-20	6	32 psi (2.2 bar)
9.5L-15	6	32 psi (2.2 bar)
10.00-16	6	24 psi (1.7 bar)
11.00-16	8	24 psi (1.7 bar)
11L-15	6	24 psi (1.7 bar)
12.4-24	8	16 psi (1.1 bar)
Rear Tires		
12.4-42	6	22 psi (1.5 bar)
13.6-38	6	22 psi (1.5 bar)
15.5-38	6	20 psi (1.4 bar)
15.5-38	8	22 psi (1.5 bar)
16.9-34	6	16 psi (1.1 bar)
16.9-34	8	16 psi (1.1 bar)
16.9-38	8	16 psi (1.1 bar)
18.4-34	6	16 psi (1.1 bar)
18.4-34	8	16 psi (1.1 bar)
18.4-38	6	16 psi (1.1 bar)
18.4-38	8	16 psi (1.1 bar)
20.8-34	6	14 psi (1.0 bar)
20.8-34	8	16 psi (1.1 bar)
23.1-30	8	16 psi (1.1 bar)

Adjust Wheel Spacing

Front Tread

Front axle is adjustable in four-inch (100 mm) steps within the ranges shown below.

FRONT TREAD RANGE			
Front Tire Size	Narrow Axle	Regular Axle	Wide Axle
7.5L-15	50 to 76" (1.27 to 1.93 m)	54 to 84" (1.37 to 2.13 m)	60 to 94" (1.52 to 2.39 m)
7.50-16	50 to 75" (1.27 to 1.91 m)	54 to 84" (1.37 to 2.13 m)	60 to 93" (1.52 to 2.36 m)
7.50-18	50 to 75" (1.27 to 1.91 m)	54 to 83" (1.37 to 2.11 m)	60 to 93" (1.52 to 2.36 m)
9.5L-15	51 to 75" (1.30 to 1.91 m)	55 to 83" (1.40 to 2.11 m)	61 to 93" (1.55 to 2.36 m)
10.00-16	52 to 74" (1.32 to 1.88 m)	56 to 82" (1.42 to 2.08 m)	62 to 92" (1.57 to 2.34 m)
11L-15	53 to 73" (1.35 to 1.85 m)	57 to 81" (1.45 to 2.06 m)	63 to 91" (1.60 to 2.31 m)
11.00-16	53 to 73" (1.35 to 1.85 m)	57 to 81" (1.45 to 2.06 m)	63 to 91" (1.60 to 2.31 m)
12.4-24**	Not Available	64 to 84"*** (1.63 to 2.13 m)	Not Available
7.50-20*	Not Available	60 to 88" (1.52 to 2.24 m)	Not Available

*Hi-Crop Tractors Only

**Power Front-Wheel Drive Tractors Only

***With 12.4-24 R2 tires, minimum tread on 4240 tractor is 68" (1.73 m)

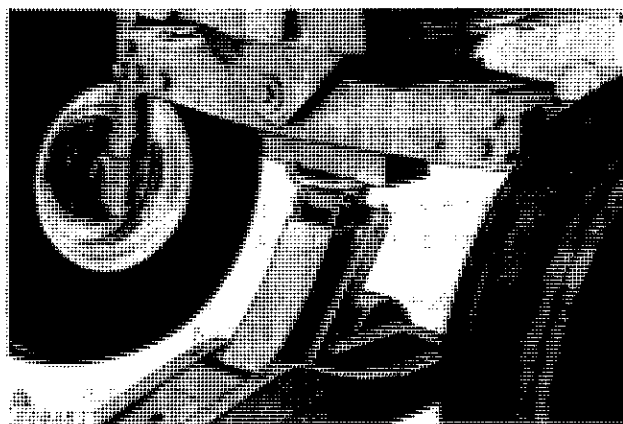


Fig. 17-Jacking Up Tractor

1. Jack up front end of tractor.

IMPORTANT: Do not place jack under engine oil pan. On tractors with power front-wheel drive, do not place jack under hose guard at front axle.

BUY NOW

**Then Instant Download
the Complete Manual
Thank you very much!**