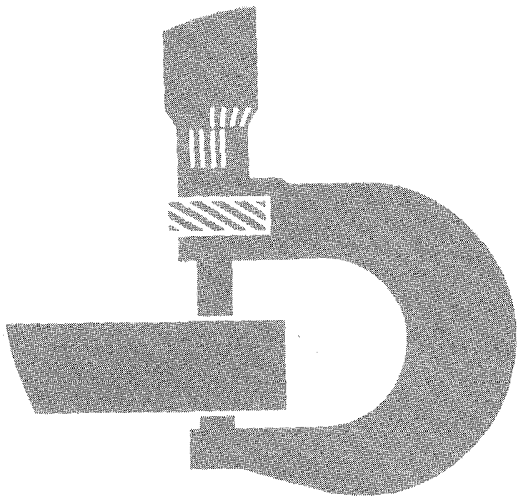
John Deere
JD646
Compactor



TECHNICAL MANUAL

TM-1073
Litho in U.S.A. (T) New

JD646 COMPACTOR

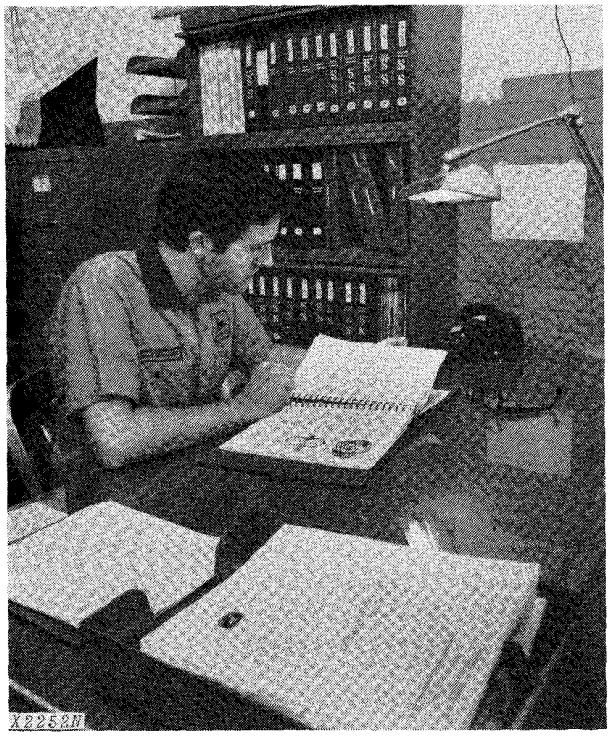
TECHNICAL MANUAL
TM-1073 (Mar-74)

CONTENTS

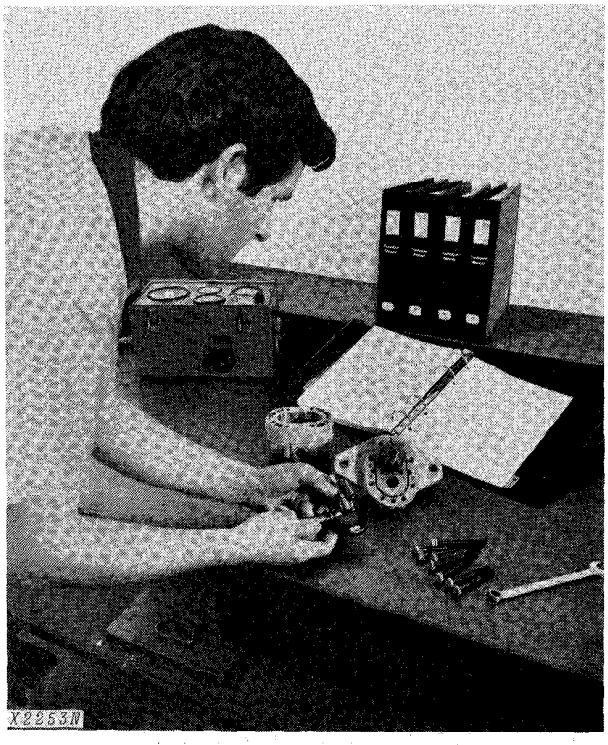
The specifications and design information contained in this manual were correct at the time it was printed. It is John Deere's policy to continually improve and update our machines. Therefore, the specifications and design information are subject to change without notice. Wherever applicable, specifications and design information are in accordance with SAE and IEMC standards.

Litho in U.S.A.

INTRODUCTION



Use FOS Manuals for Reference



Use Technical Manuals for Actual Service

This technical manual is part of a twin concept of service:

- **FOS Manuals—for reference**
- **Technical Manuals—for actual service**

The two kinds of manuals work as a team to give you both the general background and technical details of shop service.

Fundamentals of Service (FOS) Manuals cover *basic* theory of operation, *fundamentals* of trouble shooting, *general* maintenance, and *basic* types of failures and their causes. FOS Manuals are for training new men and for reference by experienced men.

Technical Manuals are concise service guides for a *specific* machine. Technical Manuals are on-the-job guides containing only the vital information needed by a journeyman mechanic.

When a serviceman should refer to a FOS Manual for more information, a FOS symbol like the one at the left is used in the TM to identify the reference.

Some features of this technical manual:

- *Table of contents at front of manual*
- *Exploded views showing parts relationship*
- *Photos showing service techniques*
- *Specifications grouped for easy reference*

This technical manual was planned and written for you—a journeyman mechanic. Keep it in a permanent binder in the shop where it is handy. Refer to it whenever in doubt about correct service procedures or specifications.

Using the technical manual as a guide will reduce error and costly delay. It will also assure you the best in finished service work.

This safety alert symbol identifies important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

Litho in U.S.A.

Section 10
GENERAL

CONTENTS OF THIS SECTION

Litho in U.S.A.

Group 5
SPECIFICATIONS

HORSEPOWER* (at 2,200 engine rpm):	SAE	PS
Gross	141	143
Net	131	133

* *Net engine flywheel horsepower is for an engine equipped with fan, air cleaner, water pump, lubricating oil pump, fuel pump, alternator, and muffler. The gross engine horsepower is without fan. Gross and net flywheel horsepower ratings are under SAE standard conditions of 500-ft. altitude and 85°F. temperature and DIN 70 020 (non-corrected). Engine maintains rated horsepower up to 10,000 feet (3,000 m) altitude.*

ENGINE:

John Deere Diesel, vertical 6-cylinder, valve-in-head, 4-stroke cycle—turbo-built with turbocharger.

Bore and stroke	4.25x4.75 in. (108x121 mm)
Piston displacement	404 cu. in. (6620 cm)
Compression ratio	16.5 to 1
Maximum torque @ 1,600 rpm	348 lb-ft. (48, 1 kg-m)
N.A.C.C. or A.M.A. (U.S. Tax) horsepower	43.3
Lubrication	Pressure system with full-flow filter
Cooling	Pressurized with thermostat and fixed bypass
Fan	Suction-type
Air cleaner	Dry type, dual element with restriction indicator
Lights and starting system	12-volt with alternator
Batteries, two	Reserve capacity: 180 minutes each

TRANSMISSION:

Twin-turbine torque converter with Power-Shift transmission (4 speeds forward—2 reverse).

TORQUE MULTIPLICATION RATIO ..... 3.2 to 1

DIFFERENTIALS:

Front	"No-Spin" type
Rear	Standard

DRIVE AXLES:

4-wheel drive with inboard-mounted planetary gears to each wheel. Front axle fixed. Rear axle oscillates 22-degree total. 15.3 in. (339 mm) vertical travel at center of tire.

RECOMMENDED TRAVEL SPEEDS:

Forward and reverse ..... 4.5 mph maximum

BRAKES:

Service...Power actuated, 4-wheel, inboard-mounted wet disk. Foot-operated by either right or left pedal.

Parking...10x1.5-in. (254x38 mm) expanding shoe type on transmission output shaft. Adjustable, hand operated with warning light on dash.

STEERING:

Full power steering. Frame articulated 80 degrees by two hydraulic cylinders. Vehicle clearance circle is 36 ft. 10.8 in. (11,25 m).

HYDRAULIC SYSTEMS:

Loader functions system...Live, transmission-driven, vane-type pump delivers 60 gpm (227 lpm) at 2,200 engine rpm and 2,250 psi (158,2 kg/cm^2) relief-valve pressure setting.

Control .....Dual-lever, triple hydraulic system.

Steering and brake systems...Engine-driven, eight-piston, variable-displacement-type pump delivers 26 gpm (98 lpm) at 2,200 engine rpm and 2,250 psi (158.2 kg/cm^2).

LANDFILL BUCKETS:		Capacity	Width
Refuse	Dirt:	2-3/4 cu. yd. (2,10 m^3)	110.77 in. (2,81 m)
	Refuse:	4-1/2 cu. yd. (3,44 m^3)	
Light materials		4-1/2 cu. yd. (3,44 m^3)	110.77 in. (2,81 m)
Multi-purpose	Dirt:	2/1/4 cu. yd. (1,72 m^3)	106.4 in. (2,70 m)
	Refuse:	3-1/2 cu. yd. (2,68 m^3)	

COMPACTOR WHEELS:

Width	23 in. (584 mm)
Diameter	55 in. (1397 mm)
60° cleats, 32/wheel	5 in. (127 mm)
Encased General tires	13-24, 12 pr
Compaction	Up to 2,898 psi

WHEEL TREADS AND WIDTH:

Front and rear (center-to-center)	81.5 in. (2,07 m)
Width outside wheels	104.5 in. (2,65 m)

CAPACITIES:	U.S.	Liters
Cooling system	9 gal.	34,1
Fuel tank	50 gal.	189,3
Crankcase and filter	17 qt.	16,1
Transmission case and filters	9.75 gal.	36,9
Front differential	6 gal.	22,7
Rear differential	6.5 gal.	24,6
Loader hydraulic sump	17.5 gal.	66,2

OPERATING WEIGHT:	lb.	kg
With refuse bucket	30,012	13625
With multi-purpose bucket	30,282	13747

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