

6620, Sidehill 6620 7720 and 8820 Combines

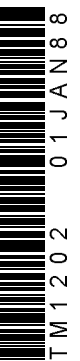


TECHNICAL MANUAL 6620, Sidehill 6620 7720 and 8820 Combines

TM1202 (01JAN88) English

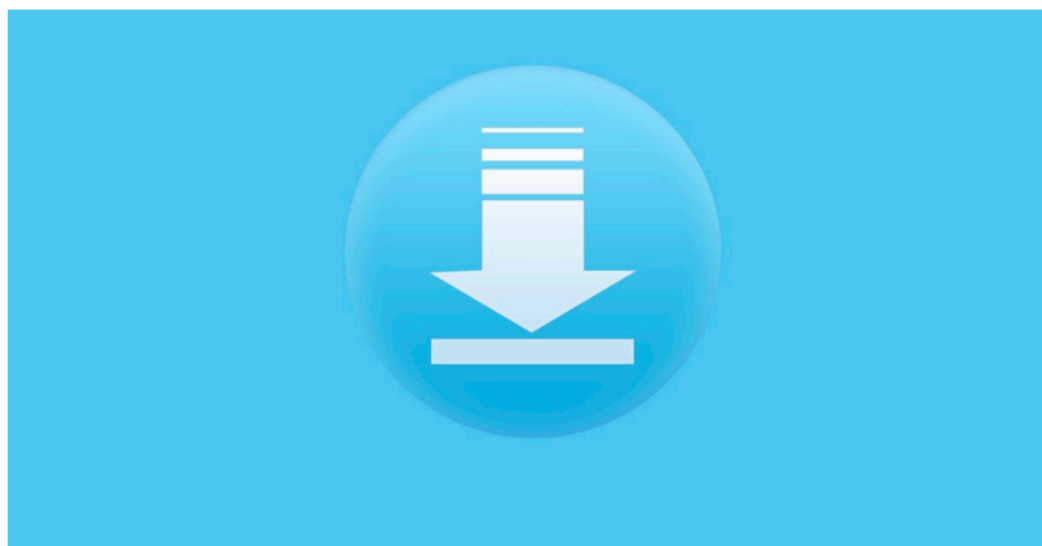
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TM1202 (01JAN88)

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6620, SIDEHILL 6620, 7720 AND 8820 COMBINES

TECHNICAL MANUAL

TM-1202 (Jan-88)

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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.

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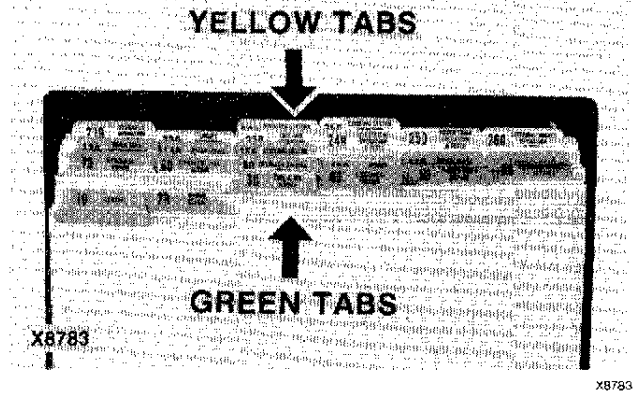
TECHNICAL MANUAL TABS

INTRODUCTION

To fully utilize this technical manual, you must understand how it is organized.

Only two tab colors are used—green and yellow. Each color represents a different type of information.

Spend a minute reading this now and save many minutes of searching later.



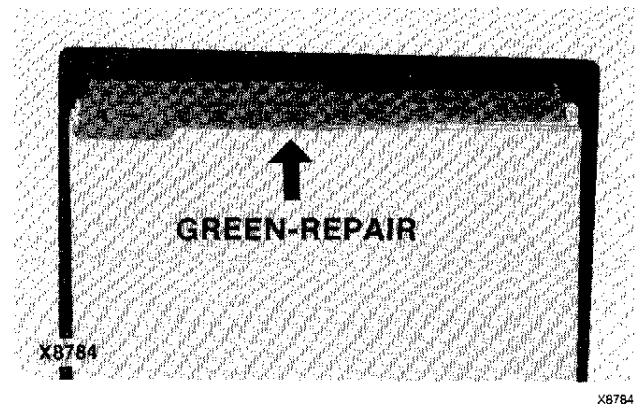
GREEN TAB SECTIONS

The green tab sections are repair sections that tell how to repair the components of the various systems.

Repair of a component includes:

- Removal from machine (when necessary)
- Disassembly
- Inspection
- Replacement of parts
- Assembly
- Adjustment
- Installation on machine (when necessary)

The numbers used for the repair (green tab) sections are part of an overall service publication numbering system. The numbers identify the same sections in the parts catalog, flat rate manual, service information bulletins, and service training courses.



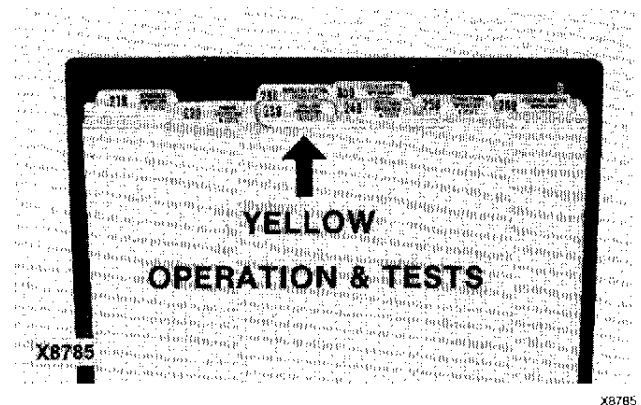
YELLOW TAB SECTIONS

Each yellow tab section contains information on:

- System Operation
- System Tests

System operation explains how the system and its components work.

System tests tell how to test the system and diagnose the problem.



TAB POSITIONS

Each green tab and its corresponding yellow tab have the same tab position. This is to help you quickly locate the related information.

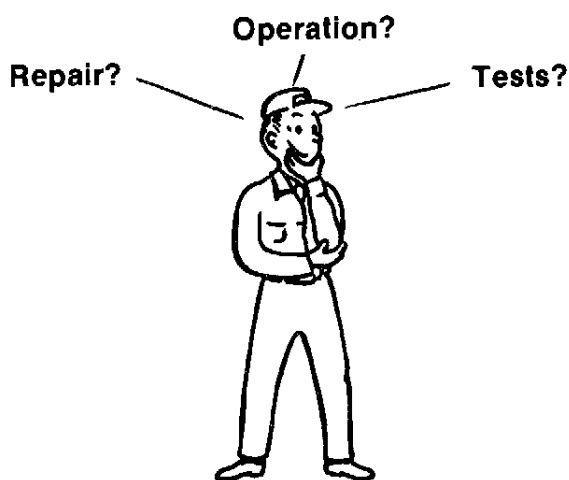
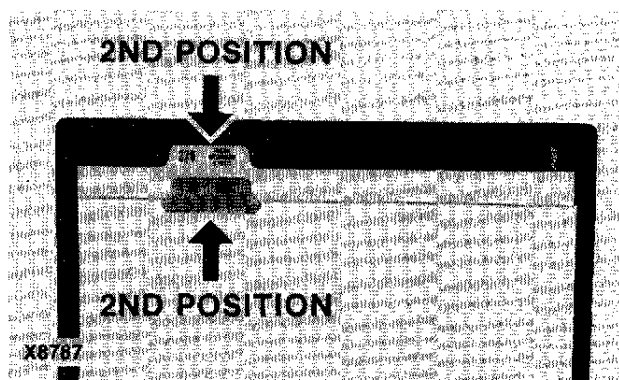
COLOR	POSITION	SEC. NO.	DESCRIPTION
Green	2nd	20	Engine Repair
Yellow	2nd	220	Engine Operation and Tests

HOW TO USE

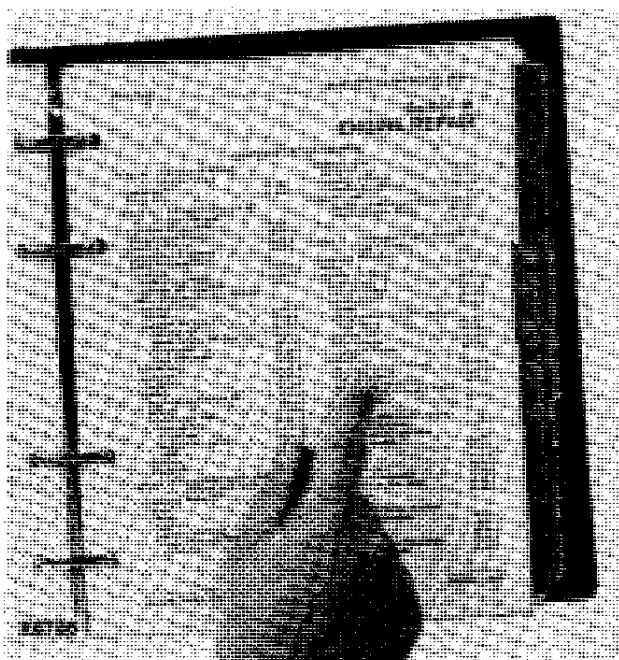
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2. Go to the appropriate section tab:
Green for Repair
Yellow for Operation or Tests

3. Use the table of contents on the first page of the section to locate the information.



X8788 TYPE OF INFORMATION?



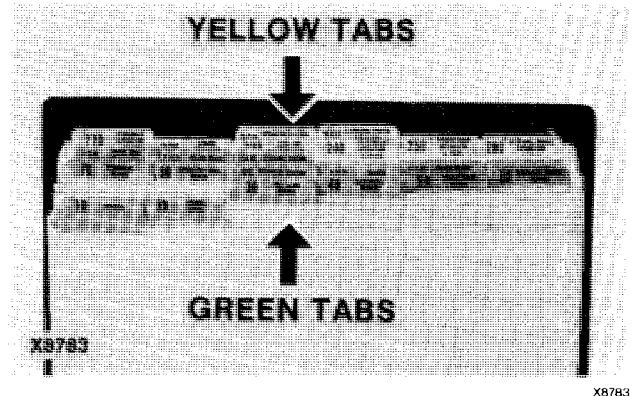
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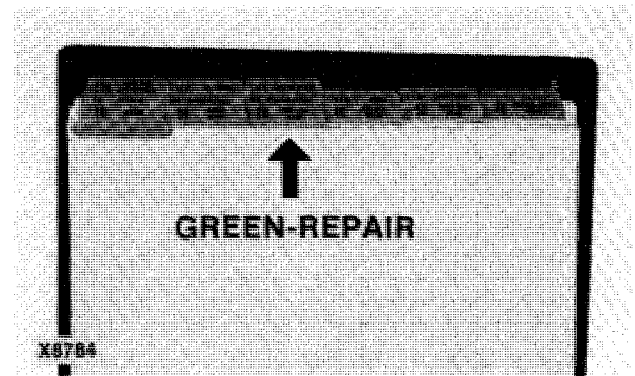
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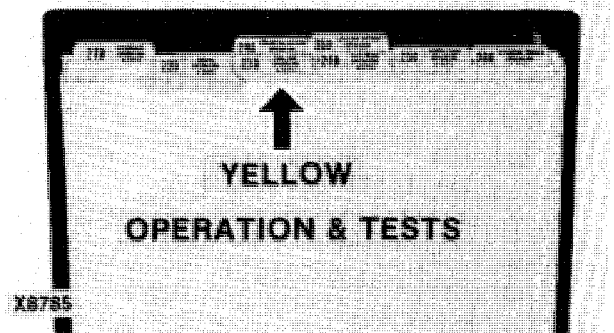
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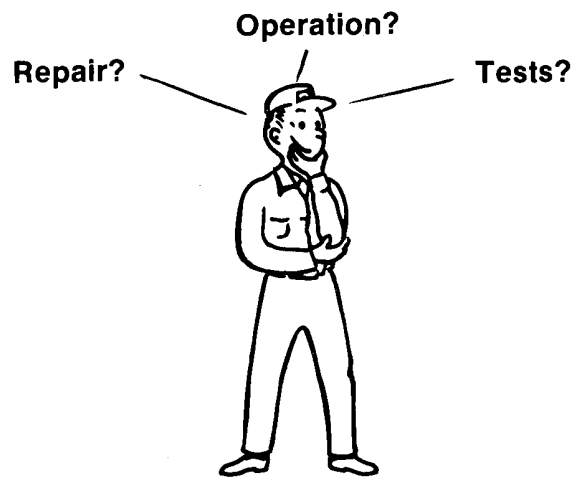
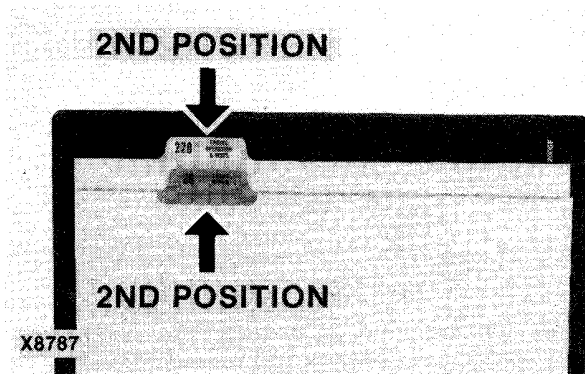
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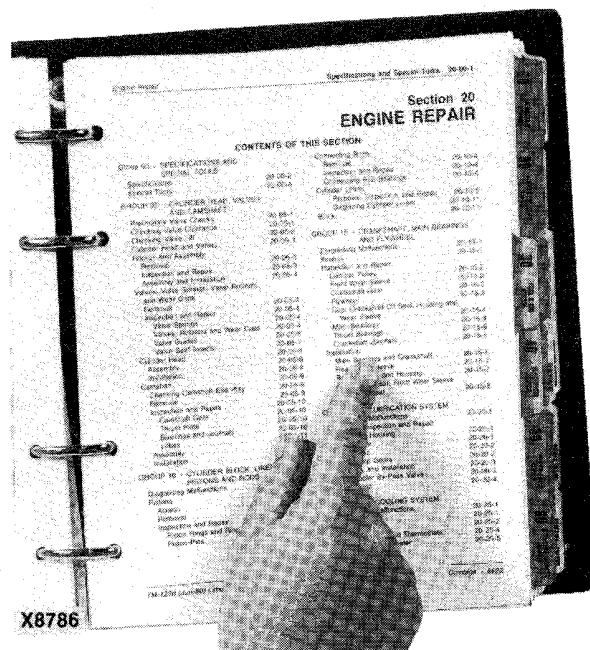
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Yellow for Operation or Tests

3. Use the table of contents on the first page of the section to locate the information.



X8788

TYPE OF INFORMATION?



CONTENTS OF THIS SECTION

Group 00
GENERAL SPECIFICATIONS

Serial Number Unit	Location	Serial Number Unit	Location
Separator . . . (-1982) Rear left hand upright (1983-) Near right hand side of tool box		Cutting Platform and Pickup Platform	Left-hand side of main frame
Engine Front side of engine block on water jacket directly above starter		Corn Head	Lower right-hand side on bulk-head frame
Sundstrand Hydrostatic Unit . . . Under pump section		Row-Crop Head	Left-hand side end sheet of main frame
Eaton Hydrostatic Unit Side of motor section			
Cam Lobe 4-Wheel Drive Motor Top of motor			
Planetary 4-Wheel Drive Motor None			

SPECIFICATIONS

Engine:		8620		SideHill 8620		7720		8820	
Type and Model	6-Cylinder, In-Line, Valve-In-Head, Diesel (Turbocharged with Hydrostatic Drive), Models 6466DH-01-Posi-Torq or 6466TH-01 or TH-05-Hydrostatic	6-Cylinder, In-Line, Valve-In-Head, Diesel, Turbocharged, Model 6466TH-01 or TH-05	6-Cylinder, In-Line, Valve-In-Head, Diesel, Turbocharged, Models 6466TH-01 or TH-05 Posi-Torq or 6466TH-02-Hydrostatic	6-Cylinder, In-Line, Valve-In-Head, Diesel, Turbocharged, Intercooled, Model 6466AH-01 or 6466AH-02* 6466AH-03 (Export)****					
Factory observed horsepower at 2200 rpm	120 (90 kW)	145 (108 kW)	145 (108 kW)	200 (150 kW) — 6466AH-01					
Slow idle speed	145 (108 kW)	1200 RPM	1200 RPM	225 (168 kW) — 6466AH-02, 03					
Fast idle speed with sep. engaged (no load)	1200 RPM			1200 RPM					
Bore and stroke	2340 RPM	2340 RPM	2340 RPM	2340 RPM					
Displacement	4.56 x 4.75 in. (116 x 121 mm)	4.56 x 4.75 in. (116 x 121 mm)	4.56 x 4.75 in. (116 x 121 mm)	4.56 x 4.75 in. (116 x 121 mm)					
Compression ratio (clean engine)	466 cu. in. (7640 cm³)	466 cu. in. (7640 cm³)	466 cu. in. (7640 cm³)	466 cu. in. (7640 cm³)					
Firing order	17.2 to 1 (Diesel) 14.9 to 1 (Turbocharged)** 15.8 to 1 (Turbocharged)***	14.9 to 1** 15.8 to 1***	14.9 to 1** 15.8 to 1***	14.9 to 1					
Valve clearance	1-5-3-6-2-4	1-5-3-6-2-4	1-5-3-6-2-4	1-5-3-6-2-4					
Intake	0.018 in. (0.46 mm)	0.018 in. (0.46 mm)	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)	0.028 in. (0.71 mm)	0.028 in. (0.71 mm)					
Injection pump timing	TDC	TDC	TDC	TDC					
Lubrication system	Force Feed, Pressurized with Full-Flow Filter	Force Feed, Pressurized with Full-Flow Filter	Force Feed, Pressurized with Full-Flow Filter	Force Feed, Pressurized with Full-Flow Filter					
Cooling System:		Cooling System:		Cooling System:		Cooling System:		Cooling System:	
Type	Single Pressure with Centrifugal Pump	Single Pressure with Centrifugal Pump	Single Pressure with Centrifugal Pump on Posi-Torq Combines, Dual-Pressure on Hydrostatic	Dual-Pressure with Centrifugal Pump					
Temperature control	Dual Heavy-Duty Thermostats	Dual Heavy-Duty Thermostats	Dual Heavy-Duty Thermostats on Hydrostatic	Dual Heavy-Duty Thermostats					
Fuel System:		Fuel System:		Fuel System:		Fuel System:		Fuel System:	
Type	Direct Injection In-Line (Turbo) Direct Injection Distributor (Diesel)	Direct Injection In-Line	Direct Injection In-Line	Direct Injection In-Line					
Air cleaner	Dry Type with Safety Element-Aspirated Precleaner	Dry Type with Safety Element-Aspirated Precleaner	Dry Type with Safety Element-Aspirated Precleaner	Dry Type with Safety Element-Aspirated Precleaner					
Electrical System:		Electrical System:		Electrical System:		Electrical System:		Electrical System:	
Type	12-volt, negative ground	12-volt, negative ground	12-volt, negative ground	12-volt, negative ground					
Batteries (2)	AN115220	AN115220	AN115220	AN115220					
Alternator	72 amp	72 amp	72 amp	72 amp					
		*Engine Serial No. (159365-) **Engine Serial No. (-252662) ***Engine Serial No. (252663-) ****Engine Serial No. (270652-)							

SPECIFICATIONS

Transmission:		6620	SideHill 6620	7720	8820
Type		Automotive Spur Gear with Four Forward Speeds and one Reverse Speed. Transmission is equipped with Safety Start Switch. Available as Posi-Torque or Hydrostatic Drive	Automotive Spur Gear with Four Forward Speeds and one Reverse Speed. Transmission is equipped with Safety Start Switch. Available as Hydrostatic Drive only	Automotive Spur Gear with Four Forward Speeds and one Reverse Speed. Transmission is equipped with Safety Start Switch. Available as Posi-Torque or Hydrostatic Drive	Automotive Spur Gear with Four Forward Speeds and one Reverse Speed. Transmission is equipped with Safety Start Switch. Available as Hydrostatic Drive only
Clutch:		12-inch (305 mm) Dry Disk-Type Clutch Hydraulically Actuated By Foot Pedal		12-inch (305 mm) Dry Disk-type Clutch Hydraulically Actuated by Foot Pedal	
Type					
Final Drive:		Ring and Pinion 10 to 82, 11 to 90 10 to 95, 11 to 104	Ring and Pinion 10 to 82, 11 to 90	Ring and Pinion 10 to 82, 11 to 90 10 to 95, 11 to 104 Planetary	Planetary Ring and Pinion 10 to 95, 11 to 104
Type					
4-Wheel Drive:		25.1 Reduction Ratio (Combine Equipped with tires) 40.6 Reduction Ratio (Combines Equipped with Crawler Tracks)		25.1 Reduction Ratio (Combines Equipped with Tires) 40.6 Reduction Ratio (Combines Equipped with Crawler Tracks)	30.2 Reduction Ratio (Combines Equipped with Tires) 40.6 Reduction Ratio (Combines Equipped with Crawler Tracks)
(Double Planetary Reduction)					
or					
Steering:		Cam Lobe	Cam Lobe	Cam Lobe	Cam Lobe
Type					
Brakes:		Full Power Hydrostatic	Full Power Hydrostatic	Full Power Hydrostatic	Full Power Hydrostatic
Type		12-inch (305 mm) Hydraulically Actuated Shoe-Type. Individual Brakes Controlled by Separate Pedals	12-inch (305 mm) Hydraulically Actuated Shoe-Type. Individual Brakes Controlled by Separate Pedals	12-inch (305 mm) Hydraulically Actuated Shoe-Type. Individual Brakes Controlled by Separate Pedals	12-inch (305 mm) Hydraulically Actuated Shoe-Type. Individual Brakes Controlled by Separate Pedals
Hydraulic System:		Open-Center, Constant Flow	Open-Center, Constant Flow	Open-Center, Constant Flow	Open-Center, Constant Flow
Type					
Capacities:		82 U.S. Gallons (311 L)	82 U.S. Gallons (311 L)	100 U.S. Gallons (379 L)	100 U.S. Gallons (379 L)
Fuel Tank					
Cooling System (Add 1-1/2 quarts (1.4 L) for heater)		32 U.S. Quarts (31 L)	32 U.S. Quarts (31 L)	32 U.S. Quarts (31 L)	34 U.S. Quarts (32 L)
Crankcase (with filter change)		*17 U.S. Quarts (16 L) 11 U.S. Quarts (10 L)	*17 U.S. Quarts (16 L) 11 U.S. Quarts (10 L)	*17 U.S. Quarts (16 L) 11 U.S. Quarts (10 L)	*17 U.S. Quarts (16 L) 11 U.S. Quarts (10 L)
Transmission		24 U.S. Quarts (22 L)	31 U.S. Quarts (28 L)	24 U.S. Quarts (22 L)	24 U.S. Quarts (22 L)
Hydraulic System (including line and components)		10 U.S. Pints (4.7 L) 11 U.S. Pints (5.2 L)	12 U.S. Pints (5.6 L)	10 U.S. Pints (4.7 L) 11 U.S. Pints (5.2 L) 10 U.S. Pints (4.7 L)	11 U.S. Pints (5.2 L) 10 U.S. Pints (4.7 L)
Final Drives					
10 to 82, 11 to 90					
10 to 95, 11 to 104					
Planetary					
Hydrostatic Drive System (including lines and components)		30 U.S. Quarts (29 L)	30 U.S. Quarts (29 L)	30 U.S. Quarts (29 L)	30 U.S. Quarts (29 L)

*21 U.S. Quarts (20 L) on Combines (458101-)

GROUND SPEED IN MPH (km/h) 6620 COMBINE (Posi-Torq Drive) 10 TO 82 AND 11 TO 90 RATIO FINAL DRIVES

Size	Tire Type	Ply	1st Gear	2nd Gear	3rd Gear	4th Gear	Reverse Gear
23.1-26	Cleat	8, 10	.7 to 1.7 (1.1 to 2.7)	1.6 to 3.9 (2.6 to 6.3)	2.9 to 7.2 (4.7 to 11.6)	6.6 to 16.5 (10.6 to 26.6)	1.3 to 3.2 (2.1 to 5.2)
23.1-26	Low Profile	8	.7 to 1.7 (1.1 to 2.7)	1.5 to 3.8 (2.4 to 6.1)	2.8 to 6.9 (4.5 to 11.1)	6.4 to 16.0 (10.3 to 25.7)	1.2 to 3.1 (2.1 to 5.0)
23.1-26	Cane & Rice	8,10	.7 to 1.8 (1.1 to 2.9)	1.7 to 4.2 (2.7 to 6.8)	3.0 to 7.6 (4.8 to 12.2)	7.0 to 17.4 (11.3 to 28.0)	1.4 to 3.4 (2.3 to 5.5)
28.1-26	Cleat	10	.7 to 1.8 (1.1 to 2.9)	1.6 to 4.0 (2.6 to 6.4)	2.9 to 7.3 (4.8 to 11.8)	6.7 to 16.9 (10.8 to 27.2)	1.3 to 3.3 (2.1 to 5.3)
28.1-26	Cane & Rice	10	.7 to 1.8 (1.1 to 2.9)	1.7 to 4.2 (2.7 to 6.8)	3.0 to 7.6 (4.8 to 12.2)	7.0 to 17.4 (11.3 to 28.0)	1.4 to 3.4 (2.3 to 5.5)

10 TO 95 AND 11 TO 104 RATIO FINAL DRIVES

Size	Tire or Tracks Type	Ply	1st Gear	2nd Gear	3rd Gear	4th Gear	Reverse Gear
24.5-32	Cleat	10	.7 to 1.7 (1.1 to 2.7)	1.6 to 3.9 (2.4 to 6.3)	2.8 to 7.1 (4.5 to 11.4)	6.5 to 16.3 (10.5 to 26.2)	1.2 to 3.2 (2.1 to 5.2)
24.5-32	Cane & Rice	10	.7 to 1.7 (1.1 to 2.7)	1.6 to 4.0 (2.6 to 6.4)	2.9 to 7.3 (4.7 to 11.8)	6.7 to 16.8 (10.8 to 26.2)	1.3 to 3.3 (2.1 to 5.3)
Tracks			.3 to .8 (.5 to 1.3)	.7 to 1.8 (1.1 to 2.9)	1.3 to 3.3 (2.1 to 5.3)	3.0 to 7.6 (4.8 to 12.2)	.6 to 1.5 (1.0 to 2.4)

GROUND SPEED IN MPH (km/h) 6620 COMBINE (Hydrostatic Drive) 10 TO 82 AND 11 TO 90 RATIO FINAL DRIVES

Tire			1st Gear	2nd Gear	3rd Gear	4th Gear
Size	Type	Ply				
23.1-26	R1 Cleat	8, 10	0 to 1.7 (0 to 2.7)	0 to 3.8 (0 to 6.2)	0 to 6.9 (0 to 11.3)	0 to 16.0 (0 to 26.2)
23.1-26	R3 Low Profile	8	0 to 1.6 (0 to 2.6)	0 to 3.7 (0 to 6.0)	0 to 6.7 (0 to 10.9)	0 to 15.4 (0 to 25.1)
23.1-26	R2 Cane & Rice	8, 10	0 to 1.7 (0 to 2.8)	0 to 4.0 (0 to 6.6)	0 to 7.3 (0 to 11.9)	0 to 16.8 (0 to 28.0)
28.1-26	R1 Cleat	10	0 to 1.7 (0 to 2.8)	0 to 3.9 (0 to 6.3)	0 to 7.1 (0 to 11.6)	0 to 16.3 (0 to 26.7)
28.1-26	R2 Cane & Rice	10	0 to 1.7 (0 to 2.8)	0 to 4.0 (0 to 6.6)	0 to 7.3 (0 to 11.9)	0 to 16.8 (0 to 27.4)

10 TO 95 AND 11 TO 104 RATIO FINAL DRIVES

Tire or Tracks			1st Gear	2nd Gear	3rd Gear	4th Gear
Size	Type	Ply				
24.5-32	R1 Cleat	10	0 to 1.7 (0 to 2.7)	0 to 3.9 (0 to 6.3)	0 to 7.1 (0 to 11.4)	0 to 16.3 (0 to 26.2)
24.5-32	R2 Cane & Rice	10	0 to 1.7 (0 to 2.7)	0 to 4.0 (0 to 6.4)	0 to 7.3 (0 to 11.8)	0 to 16.8 (0 to 27.0)
Tracks			0 to .8 (0 to 1.3)	0 to 1.8 (0 to 2.9)	0 to 3.3 (0 to 5.3)	0 to 7.6 (0 to 12.2)

GROUND SPEED CONTROL RANGE IN MPH (km/h) SIDEHILL 6620 COMBINE

Tire			1st Gear	2nd Gear	3rd Gear	4th Gear
Size	Type	Ply Rating				
23.1-26	R1 Cleat	10	0 to 1.7 (0 to 2.7)	0 to 4.0 (0 to 6.4)	0 to 7.3 (0 to 11.8)	0 to 16.7 (0 to 26.9)
23.1-26	R2 Cane & Rice	10	0 to 1.8 (0 to 2.9)	0 to 4.2 (0 to 6.8)	0 to 7.6 (0 to 12.2)	0 to 17.6 (0 to 28.3)

GROUND SPEED CONTROL RANGE IN MPH (km/h) WITH 4-WHEEL DRIVE ENGAGED

SIDEHILL 6620, 6620 AND 7720 COMBINES

(HYDROSTATIC DRIVE)

Tire or Tracks Size	Type	Ply	1st Gear	2nd Gear	3rd Gear	4th Gear
23.1-26	R1 Cleat	8	0 to 1.5 (0 to 2.4)	0 to 3.1 (0 to 5.0)	0 to 4.8 (0 to 7.7)	0 to 7.9 (0 to 12.7)
23.1-26	R2 Cane & Rice	10	0 to 1.6 (0 to 2.6)	0 to 3.2 (0 to 5.1)	0 to 5.1 (0 to 8.2)	0 to 8.3 (0 to 13.4)
24.5-32	R1 Cleat	10	0 to 1.5 (0 to 2.4)	0 to 3.1 (0 to 5.0)	0 to 4.9 (0 to 7.9)	0 to 8.1 (0 to 13.0)
24.5-32	R2 Cane & Rice	10	0 to 1.5 (0 to 2.4)	0 to 3.2 (0 to 5.1)	0 to 5.0 (0 to 8.0)	0 to 8.4 (0 to 13.5)
28.1-26	R1 Cleat	10,12	0 to 1.5 (0 to 2.4)	0 to 3.2 (0 to 5.1)	0 to 5.0 (0 to 8.0)	0 to 8.3 (0 to 13.4)
28.1-26	R2 Cane & Rice	10,12	0 to 1.6 (0 to 2.6)	0 to 3.2 (0 to 5.1)	0 to 5.1 (0 to 8.2)	0 to 8.5 (0 to 13.6)
30.5-32	R1 Cleat	10	0 to 1.5 (0 to 2.4)	0 to 3.1 (0 to 5.0)	0 to 5.0 (0 to 8.0)	0 to 8.4 (0 to 13.5)
30.5-32	R2 Cane and Rice	10	0 to 1.5 (0 to 2.4)	0 to 3.2 (0 to 5.1)	0 to 5.0 (0 to 8.0)	0 to 8.4 (0 to 13.5)
Tracks			0 to .7 (0 to 1.1)	0 to 1.5 (0 to 2.4)	0 to 2.5 (0 to 4.0)	0 to 4.4 (0 to 7.1)

GROUND SPEED IN MPH (km/h) 7720 COMBINE (Posi-Torq Drive) 10 TO 82 AND 11 TO 90 RATIO FINAL DRIVES

Tire							
Size	Type	Ply	1st Gear	2nd Gear	3rd Gear	4th Gear	Reverse Gear
23.1-26	Cleat	10	.7 to 1.7 (1.1 to 2.7)	1.6 to 3.9 (2.6 to 6.2)	2.9 to 7.2 (4.7 to 11.7)	6.6 to 16.5 (10.7 to 26.7)	1.3 to 3.2 (2.1 to 5.2)
23.1-26	Low Profile	8	.7 to 1.7 (1.1 to 2.7)	1.5 to 3.8 (2.4 to 6.1)	2.8 to 6.9 (4.5 to 11.1)	6.4 to 16.0 (10.3 to 25.7)	1.2 to 3.1 (2.0 to 5.0)
23.1-26	Cane & Rice	10	.7 to 1.8 (1.1 to 2.9)	1.7 to 4.2 (2.7 to 6.8)	3.0 to 7.6 (4.9 to 12.2)	7.0 to 17.4 (11.3 to 28.1)	1.4 to 3.4 (2.3 to 5.5)
28.1-26	Cleat	12	.7 to 1.8 (1.1 to 2.9)	1.6 to 4.0 (2.6 to 6.4)	2.9 to 7.3 (4.7 to 11.8)	6.7 to 16.9 (10.8 to 27.2)	1.3 to 3.3 (2.1 to 5.3)
28.1-26	Cane & Rice	12	.7 to 1.8 (1.1 to 2.9)	1.7 to 4.2 (2.7 to 6.8)	3.0 to 7.6 (4.8 to 12.2)	7.0 to 17.4 (11.3 to 28.0)	1.4 to 3.4 (2.3 to 5.5)

10 TO 95 AND 11 TO 104 RATIO FINAL DRIVES

Tire or Tracks							
Size	Type	Ply	1st Gear	2nd Gear	3rd Gear	4th Gear	Reverse Gear
24.5-32	Cleat	10	.7 to 1.7 (1.1 to 2.7)	1.6 to 3.9 (2.6 to 6.3)	2.8 to 7.1 (4.5 to 11.4)	6.5 to 16.3 (10.5 to 26.2)	1.3 to 3.2 (2.1 to 5.2)
24.5-32	Cane & Rice	10	.7 to 1.7 (1.1 to 2.7)	1.6 to 4.0 (2.6 to 6.4)	2.9 to 7.3 (4.7 to 11.8)	6.7 to 16.8 (10.8 to 27.0)	1.3 to 3.3 (2.1 to 5.3)
30.5-32	Cleat	10	.7 to 1.7 (1.1 to 2.7)	1.6 to 3.9 (2.6 to 6.3)	2.9 to 7.2 (4.7 to 11.6)	6.6 to 16.4 (10.6 to 26.4)	1.3 to 3.2 (2.1 to 5.2)
30.5-32	Cane & Rice	10	.7 to 1.8 (1.1 to 2.9)	1.6 to 4.1 (2.6 to 6.7)	3.0 to 7.4 (4.9 to 11.9)	6.8 to 17.1 (11.0 to 27.8)	1.3 to 3.3 (1.8 to 5.3)
Tracks			.3 to .8 (.5 to 1.3)	.7 to 1.8 (1.1 to 2.9)	1.3 to 3.3 (2.1 to 5.3)	3.0 to 7.6 (4.8 to 12.2)	.6 to 1.5 (1.0 to 2.4)

GROUND SPEED IN MPH (km/h) 7720 COMBINE (Hydrostatic Drive) 10 TO 82 AND 11 TO 90 RATIO FINAL DRIVES

Size	Tire	Type	Ply	1st Gear	2nd Gear	3rd Gear	4th Gear
23.1-26		R1 Cleat	10	0 to 1.7 (0 to 2.7)	0 to 3.8 (0 to 6.2)	0 to 6.9 (0 to 11.4)	0 to 16.0 (0 to 26.2)
23.1-26		R3 Low Profile	8	0 to 1.6 (0 to 2.6)	0 to 3.7 (0 to 6.0)	0 to 6.7 (0 to 10.9)	0 to 15.4 (0 to 25.1)
23.1-26		R2 Cane & Rice	10	0 to 1.7 (0 to 2.8)	0 to 4.0 (0 to 6.6)	0 to 7.3 (0 to 11.9)	0 to 16.8 (0 to 28.0)
28.1-26		R1 Cleat	12	0 to 1.7 (0 to 2.8)	0 to 3.9 (0 to 6.3)	0 to 7.1 (0 to 11.6)	0 to 16.3 (0 to 26.7)
28.1-26		R2 Cane & Rice	12	0 to 1.7 (0 to 2.8)	0 to 4.0 (0 to 6.6)	0 to 7.3 (0 to 11.9)	0 to 16.8 (0 to 27.4)

10 TO 95 AND 11 TO 104 RATIO FINAL DRIVES

Size	Tire	Type	Ply	1st Gear	2nd Gear	3rd Gear	4th Gear
24.5-32		R1 Cleat	10	0 to 1.6 (0 to 2.6)	0 to 3.8 (0 to 6.2)	0 to 6.8 (0 to 11.1)	0 to 15.7 (0 to 25.6)
24.5-32		R2 Cane & Rice	10	0 to 1.7 (0 to 2.7)	0 to 3.9 (0 to 6.3)	0 to 7.1 (0 to 11.8)	0 to 16.2 (0 to 27.0)
30.5-32		R1 Cleat	10	0 to 1.7 (0 to 2.7)	0 to 3.8 (0 to 6.3)	0 to 6.9 (0 to 11.6)	0 to 15.9 (0 to 26.4)
30.5-32		R2 Cane & Rice	10	0 to 1.7 (0 to 2.7)	0 to 3.9 (0 to 6.3)	0 to 7.2 (0 to 11.6)	0 to 16.5 (0 to 26.5)
Tracks				0 to .8 (0 to 1.3)	0 to 1.7 (0 to 2.8)	0 to 3.2 (0 to 5.2)	0 to 7.3 (0 to 11.8)

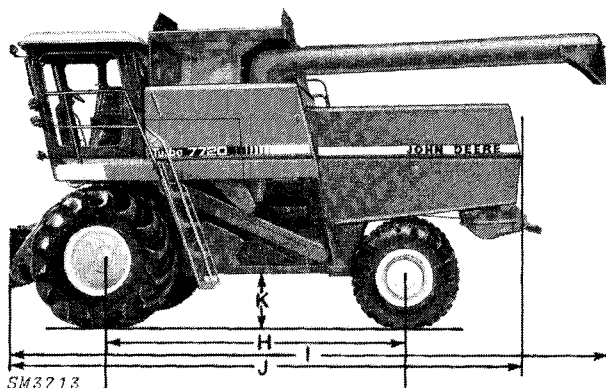
GROUND SPEED CONTROL RANGE IN MPH (km/h) 7720 RICE AND 8820 COMBINES

Tire Size and Type		Ply	1st Gear	2nd Gear	3rd Gear	4th Gear
24.5-32	R1 Cleat	10	0 to 1.6 (0 to 2.6)	0 to 3.6 (0 to 5.8)	0 to 6.5 (0 to 10.5)	0 to 15.0 (0 to 24.1)
24.5-32	R2 Cane and Rice	10	0 to 1.6 (0 to 2.6)	0 to 3.7 (0 to 6.0)	0 to 6.7 (0 to 10.8)	0 to 15.4 (0 to 24.8)
24.5-32	R3 Low Profile	10	0 to 1.5 (0 to 2.4)	0 to 3.4 (0 to 5.5)	0 to 6.3 (0 to 10.1)	0 to 14.4 (0 to 23.2)
18.4-38 Duals and 30.5-32	R1 Cleat	8, 10	0 to 1.6 (0 to 2.0)	0 to 3.6 (0 to 5.8)	0 to 6.5 (0 to 10.5)	0 to 15.1 (0 to 24.3)
18.4-38 Duals and 30.5-32	R2 Cane and Rice	8, 10	0 to 1.6 (0 to 2.6)	0 to 3.7 (0 to 6.0)	0 to 6.8 (0 to 10.9)	0 to 15.6 (0 to 25.1)
30.5-32	R3 Low Profile	10	0 to 1.5 (0 to 2.4)	0 to 3.4 (0 to 5.5)	0 to 6.3 (0 to 10.1)	0 to 14.4 (0 to 23.2)
73x44.00-32	R1.5 High Flotation	12	0 to 1.6 (0 to 2.6)	0 to 3.7 (0 to 6.0)	0 to 6.8 (0 to 10.9)	0 to 15.5 (0 to 25.0)
Tracks			0 to 1.1 (0 to 1.8)	0 to 2.4 (0 to 3.9)	0 to 4.4 (0 to 7.1)	0 to 10.1 (0 to 16.3)

GROUND SPEED CONTROL RANGE IN MPH (km/h) WITH 4-WHEEL DRIVE ENGAGED 7720 RICE AND 8820 COMBINES

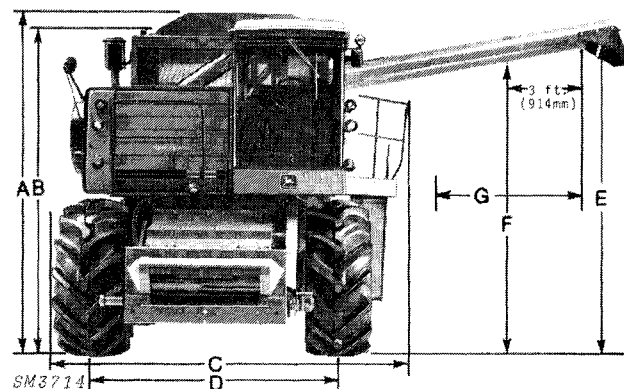
Tire Size and Type		Ply	1st Gear	2nd Gear	3rd Gear	4th Gear
24.5-32	R1 Cleat	10	0 to 1.4 (0 to 2.3)	0 to 2.9 (0 to 4.7)	0 to 4.6 (0 to 7.4)	0 to 7.8 (0 to 12.6)
24.5-32	R2 Cane and Rice	10	0 to 1.5 (0 to 2.4)	0 to 3.0 (0 to 4.8)	0 to 4.8 (0 to 7.7)	0 to 7.9 (0 to 12.7)
18.4-38 Duals and 30.5-32	R1 Cleat	8, 10	0 to 1.4 (0 to 2.3)	0 to 2.9 (0 to 4.7)	0 to 4.7 (0 to 7.6)	0 to 7.9 (0 to 12.7)
18.4-38 Duals and 30.5-32	R2 Cane and Rice	8, 10	0 to 1.5 (0 to 2.4)	0 to 3.0 (0 to 4.8)	0 to 4.8 (0 to 7.7)	0 to 8.0 (0 to 12.9)
73x44.00-32	R.1 High Flotation	12	0 to 1.5 (0 to 2.4)	0 to 3.0 (0 to 4.8)	0 to 4.7 (0 to 7.6)	0 to 7.7 (0 to 12.4)
Tracks			0 to 1.0 (0 to 1.6)	0 to 2.0 (0 to 3.2)	0 to 3.2 (0 to 5.1)	0 to 5.5 (0 to 8.9)

DIMENSIONS



SM3713

SM3713



SM3714

SM3714

Dimensions are with combine equipped with standard equipment tires and radio antenna clipped to roof.

	6620	SideHill 6620	7720	8820
Standard Equipment Tires	23.1-26-in.	23.1-26-in.	24.5-32-in.	30.5-32-in.
	Cleat (R-1)	Cleat (R-1)	Cleat (R-1)	Cleat (R-1)
A. Height (Grain Tank Flip-Up In Up Position)	13 ft.	13 ft. 3 in.	13 ft. 4 in.	13 ft. 4 in.
	(3.96 m)	(4.04 m)	(3.96 m)	(4.06 m)
B. Height (Grain Tank Flip-Up In Down Position And Exhaust Pipe At Highest Point)	12 ft. 8 in.	12 ft. 11 in.	13 ft.	13 ft.
	(3.86 m)	(3.94 m)	(3.86 m)	(3.96 m)
C. Width	12 ft. 4 in.	13 ft.	13 ft. 3 in.	14 ft. 5 in.
	(3.76 m)	(3.96 m)	(4.04 m)	(4.39 m)
D. Wheel Tread - For tread widths refer to wheel spacers page in the operator's manual.				
E. Unloading Auger Discharge Height	12 ft. 2 in.	12 ft. 5 in.	12 ft. 2 in.	12 ft. 6 in.
	(3.71 m)	(3.78 m)	(3.71 m)	(3.81 m)
F. Unloading Auger Clearance Height	11 ft. 8 in.	11 ft. 11 in.	11 ft. 8 in.	12 ft.
	(3.56 m)	(3.63 m)	(3.56 m)	(3.66 m)
G. Unloading Auger Reach*	5 ft. 7 in.	5 ft. 7 in.	4 ft. 1 in.	4 ft. 6 in.
	(1.70 m)	(1.70 m)	(1.24 m)	(1.37 m)
Header Size Used	20 ft.	20 ft.	24 ft.	24 ft.
	(6.1 m)	(6.1 m)	(7.32 m)	(7.32 m)
H. Wheelbase (All but heavy-duty)	12 ft. 1 in.	12 ft. 10 in.	12 ft. 1 in.	N/A
	(3.68 m)	(3.91 m)	(3.68 m)	
Heavy-Duty Rear Axle	12 ft. 8 in.	12 ft. 8 in.	12 ft. 8 in.	12 ft. 8 in.
	(3.86 m)	(3.86 m)	(3.86 m)	(3.86 m)
**Turning Radius	N/A	N/A	20 ft. 8 in.	26 ft. 4 in.
			(6.33 m)	(8.03 m)
***Clearance Radius	N/A	N/A	28 ft. 9 in.	30 ft.
			(8.89 m)	(9.14 m)

*Add 3-ft. (0.9 m) for extra long unloading auger.

**Measured to center of outer wheel track.

***Measured to extreme scribed circle (end of unloading auger in transport position).

DIMENSIONS

	6620	SideHill 6620	7720	8820
I. Length*				
With Auger In The Rear Position:				
Separator Only	26 ft. 1 in. (7.95 m)	26 ft. 1 in. (7.95 m)	26 ft. 1 in. (7.95 m)	26 ft. 1 in. (7.95 m)
Separator With Corn Head	34 ft. 3 in. (10.44 m)	34 ft. 3 in. (10.44 m)	34 ft. 3 in. (10.44 m)	34 ft. 3 in. (10.44 m)
Separator With Row-Crop Head	35 ft. 8 in. (10.87 m)	35 ft. 8 in. (10.87 m)	35 ft. 8 in. (10.87 m)	35 ft. 8 in. (10.87 m)
Separator With Flexible Platform	36 ft. 4 in. (11.07 m)	36 ft. 4 in. (11.07 m)	36 ft. 4 in. (11.07 m)	36 ft. 4 in. (11.07 m)
Separator With Rigid Platform	33 ft. 8 in. (10.26 m)	33 ft. 8 in. (10.26 m)	33 ft. 8 in. (10.26 m)	33 ft. 8 in. (10.26 m)
Separator With Pickup Platform (pickup in)	33 ft. (10.06 m)	33 ft. (10.06 m)	33 ft. (10.06 m)	33 ft. (10.06 m)
J. Length**				
With Auger In The Out Position:				
Separator Only	22 ft. 9 in. (6.93 m)	22 ft. 9 in. (6.93 m)	22 ft. 9 in. (6.93 m)	22 ft. 9 in. (6.93 m)
Separator With Corn Head	30 ft. 11 in. (9.42 m)	30 ft. 11 in. (9.42 m)	30 ft. 11 in. (9.42 m)	30 ft. 11 in. (9.42 m)
Separator With-Row Crop Head	32 ft. 4 in. (9.86 m)	32 ft. 4 in. (9.86 m)	32 ft. 4 in. (9.86 m)	32 ft. 4 in. (9.86 m)
Separator With Flexible Platform	33 ft. (10.06 m)	33 ft. (10.06 m)	33 ft. (10.06 m)	33 ft. (10.06 m)
Separator With Rigid Platform	30 ft. 4 in. (9.25 m)	30 ft. 4 in. (9.25 m)	30 ft. 4 in. (9.25 m)	30 ft. 4 in. (9.25 m)
Separator With Pickup Platform (pickup in)	29 ft. 8 in. (9.04 m)	29 ft. 8 in. (9.04 m)	29 ft. 8 in. (9.04 m)	29 ft. 8 in. (9.04 m)
K. Ground Clearance	1 ft. 9 in. (.53 m)	2 ft. (.61 m)	1 ft. 9 in. (.53 m)	2 ft. 1 in. (.64 m)

*Add 14-in. (356 mm) for long-length feeder house.

**Add 12-in. (304 mm) for a straw chopper; and 2 ft. 11 in. (889 mm) for a straw spreader.

Group 05**DIAGNOSING AND TESTING PROCEDURES**

To prevent unnecessary loss of time and money, use the following seven steps for a quick and accurate method of locating troubles:

1. Know The Unit

In other words, "Do your Homework". Study the Operator's Manual and this manual to know how the individual components work and what their function is in the overall system.

Keep up with the latest service information. Read and then file in a handy place. Record the Service Information Bulletin numbers on the pages provided in the front of this manual. Information received today may have the cause and remedy of a problem being encountered.

2. Consult The Operator

Ask the operator how the combine was performing when it started to fail. Find out what was unusual about it.

Also find out if any "do-it-yourself" service was performed. (You may find the trouble somewhere else, but you should know if any corrective measures have already been taken.)

Ask how the combine is used and how often it is serviced. Many problems are caused by poor maintenance or abuse.

3. Operate The Combine

If the combine is operable, operate it yourself. Don't rely completely on the operator's story - check it yourself.

Are gauges reading normal? If not, maybe the component being monitored is not functioning correctly or the gauge is faulty.

How's the performance? Is the action perhaps too fast or too slow, erratic, or none at all?

Do the controls feel solid or "spongy"? Do they seem to be "sticking"?

Do you smell or see any signs of smoke?

Do you hear any unusual sounds? Where?

4. Inspect The Combine

Get off the combine and make a visual check. Use your eyes, ears, and nose to spot any signs of trouble.

Look closely at the components. Inspect for cracked welds, loose hardware, damaged linkages, worn or broken lines, etc.

During the inspection, make notes of all the trouble signs.

5. List The Possible Causes

With the information obtained during steps 1 through 4, make a list of the possible causes.

What were the signs you found while inspecting the combine? What is the most likely cause?

6. Reach Some Conclusions

Look over the list of possible causes and decide which are most likely and which are easiest to verify.

Review the "Diagnosing Malfunctions" section as a helpful guide.

Reach your decision on the probable causes and plan to check them first.

7. Test Your Conclusions

Before repairing components in the system, test your conclusions to see which are correct.

Some of the possible causes may be verified without further testing. Check these possibilities first.

Test will narrow the remaining list of possible causes and soon the actual cause(s) of trouble will be pinpointed.

With the cause(s) accurately located, it is now a simple matter to remove and repair the component(s) at fault.

Group 10

TUNE-UP AND ADJUSTMENT

GENERAL INFORMATION

Before tuning up a combine engine, determine whether a tune-up will restore operating efficiency. When there is doubt, the following preliminary tests will help determine if the engine can be tuned up. If the

condition is satisfactory, proceed with the tune-up. Choose from the following procedures only those necessary to restore the combine.

PRELIMINARY ENGINE TESTING

Compression Test (minimum readings at 200-250 rpm cranking speed)

Engine	Compression Pressure
6466DH-01	26-28 Kg/cm ² (26-27 bar) (370-400 psi)
6466TH-01, TH-05	23-25 Kg/cm ² (23-26 bar) (330-370 psi)
ENGINE (-252662)	
6466TH-01, TH-05	27-32 Kg/cm ² (27-31 bar) (390-450 psi)
ENGINE (252663-)	
6466AH-01, AH-02	23-25 Kg/cm ² (23-26 bar) (330-370 psi)
ENGINE (-227649)	
6466AH-01, AH-02, AH-03	25-30 Kg/cm ² (25-29 bar) (355-415 psi)
ENGINE (227650-)	

It is very important that all cylinder pressures be approximately alike. There should be less than 25 psi (1.72 bar) (1.75 kg/cm²) difference between cylinder pressures.

ENGINE TUNE-UP

Air Intake System

Check system for leaks

Exhaust System

Check system for leaks. Check for restricted muffler or exhaust pipe

Crankcase Vent

Check for restrictions

Cooling System

Clean rotary screen, radiator core, hydrostatic oil cooler core, and air conditioning condenser

Clean and flush system and check thermostats

Check radiator cap

Inspect all hoses

ENGINE TUNE-UP—Continued

Operation	Section-Group Reference
Cylinder Head and Valves	
Torque cylinder head cap screws (in sequence)	20-05
Set valve clearance	20-05
Fuel System	
Check fuel tank for water and drain off if required	
Check fuel tank and lines for leaks or restrictions	
Check electric fuel pump pressure	230-10
Clean sediment bowl and screen	
Service injection nozzles	30-10
Bleed fuel system	
Check injection pump timing	
Replace fuel filters	
Electrical System	
Clean and tighten battery cables and connections	
Check alternator belt tension	
Check alternator output	240-10
Check neutral safety start switch operation	240-15
Check starter draw	240-15
Check battery voltage	240-05
Inspect all wiring	