

# **930 Comfort King Tractor**

## **Operators Manual**

9-1575

Reprinted





***This symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED. The message that follows the symbol contains important information about your safety. Carefully read the message. Make sure you fully understand the causes of possible injury or death.***

SB001

IF THIS MACHINE IS USED BY AN EMPLOYEE, IS LOANED, OR IS RENTED, MAKE SURE THAT THE OPERATOR UNDERSTANDS THE TWO INSTRUCTIONS BELOW.

BEFORE THE OPERATOR STARTS THE ENGINE:

1. GIVE INSTRUCTIONS TO THE OPERATOR ON SAFE AND CORRECT USE OF THE MACHINE.
2. MAKE SURE THE OPERATOR READS AND UNDERSTANDS THE OPERATOR'S MANUAL FOR THIS MACHINE.



# WARNING

**IMPROPER OPERATION OF THIS MACHINE CAN CAUSE INJURY OR DEATH.**

BEFORE STARTING THE ENGINE, DO THE FOLLOWING:

1. READ THE OPERATOR'S MANUAL.
2. READ ALL SAFETY DECALS ON THE MACHINE.
3. CLEAR THE AREA OF OTHER PERSONS.

LEARN AND PRACTICE SAFE USE OF MACHINE CONTROLS IN A SAFE, CLEAR AREA BEFORE YOU OPERATE THIS MACHINE ON A JOB SITE.

It is your responsibility to observe pertinent laws and regulations and to follow manufacturer's instructions on machine operation and maintenance.

See your Authorized Case dealer for additional operator's manuals, parts catalogs, and service manuals.

## TO THE PURCHASER OF A CASE TRACTOR

The care you give your new Case Tractor will greatly determine the satisfaction and service life you will obtain from it. Use this manual as your guide. By observing the instructions and suggestions in this manual, your Case Tractor will serve you well for many years.

As an Authorized Case Dealer, we stock Genuine Case Parts, which are manufactured with the same precision and skill as the original equipment. Our factory trained staff is kept well informed on the best methods of servicing Case equipment and is ready and able to help you.

Should you require additional aid or information, contact us.

*Your Authorized Case Dealer*

To insure efficient and prompt service, please furnish us with the Model, Serial and Engine Numbers of your Tractor in all correspondence or contacts.

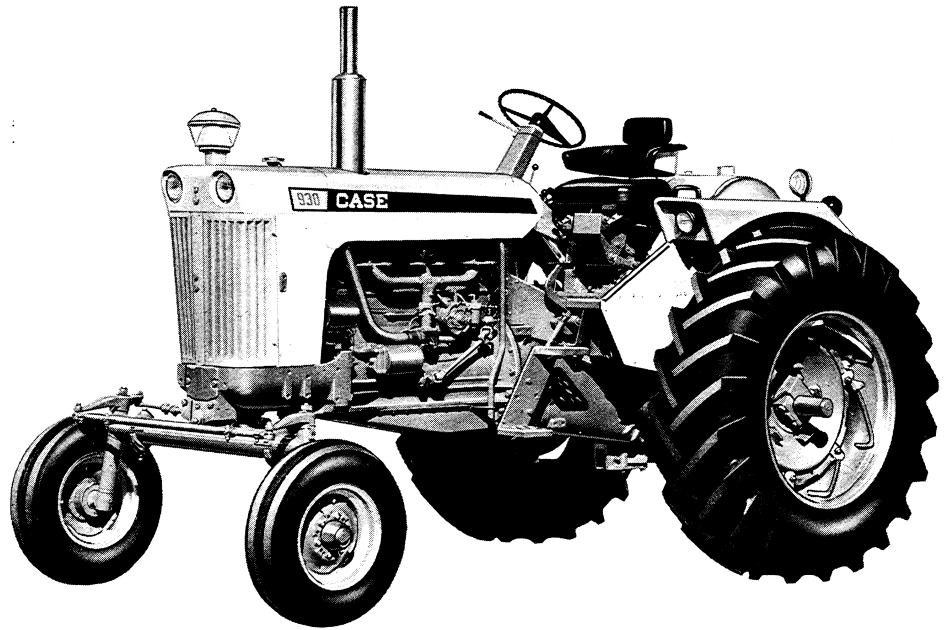


Figure 1.General Purpose Tractor (931)

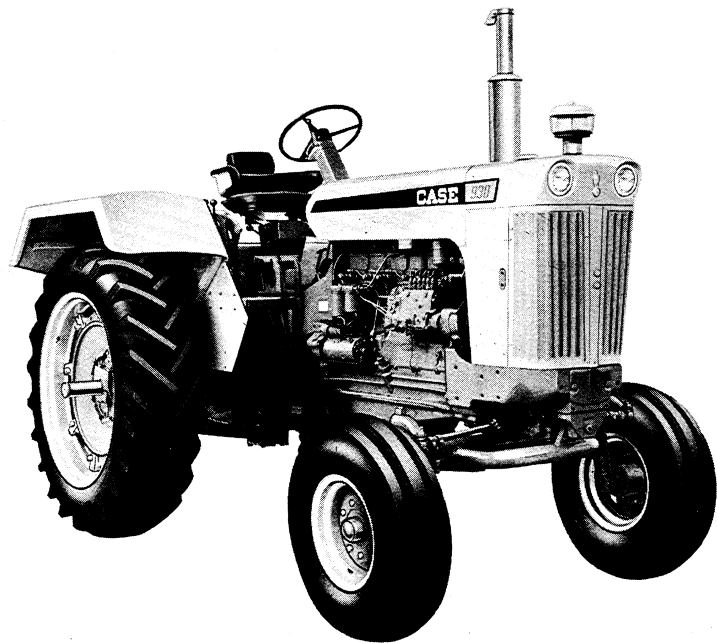


Figure 2.Special Tractor (932)

## SERIAL NUMBER

When ordering parts from your Authorized Case Dealer and in all contacts or correspondence with your dealer relative to the Tractor, always specify the Serial, Model and Engine Numbers of your Tractor

The Model and Serial Numbers are stamped on the number plate located below the instrument panel. See Figure 3. The Engine Number is stamped on plate fastened to the right hand side of the engine on the fuel pump mounting flange, Figure 4.

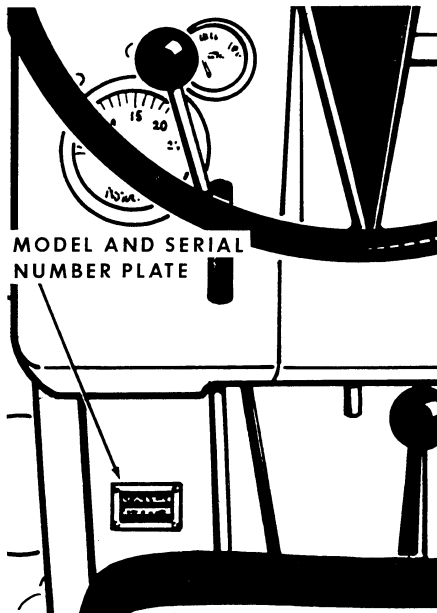


Figure 3

### MODEL

931

932

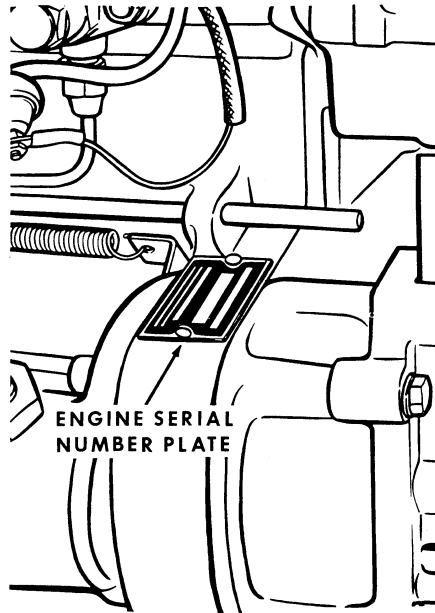


Figure 4

### DESCRIPTON

General Purpose

Special

**NOTE** The terms "Right Hand" and "Left Hand" whenever used in this manual apply to the Tractor when facing in the direction the Tractor will move in forward operation.

For reference, fill in the Serial Number, Model Number and Engine Number of your Tractor in the spaces provided below:

Model Number \_\_\_\_\_

Engine Number \_\_\_\_\_

Serial Number \_\_\_\_\_

# Diesel Engine

## SPECIFICATIONS

### General

Type ----- 6 Cylinder, 4 Stroke Cycle,  
Valve-In-Head Engine.  
Firing Order ----- 1-5-3-6-2-4  
Bore ----- 4.125 Inches  
Stroke ----- 5 Inches  
Piston Displacement ----- 401 Cubic Inches  
Compression Ratio ----- 15 to 1  
\*Valve Clearance (Intake and Exhaust) ----- .020 Inch (Hot)  
Rated Engine Speed ----- 1800 RPM  
No Load Governed Engine Speed ----- 1960 RPM  
Engine Idling Speed ----- 600 RPM  
Cylinder Sleeves ----- Removable Wet Type  
Cold Weather Starting Aid ----- Electric Manifold Heater  
Diesel Fuel Recommendation ----- Number 2 Diesel Fuel

\*Hot Settings Are Made At Low Idle After the Engine Has Operated  
At Thermostat Controlled Temperature For At Least Fifteen Minutes.

### Piston and Rods

Number of Compression Rings ----- 3  
Number of Oil Rings ----- 1  
Piston Pins ----- Full Floating Type  
Type of Connecting Rod Bearings ----- Replaceable Pre-  
cision Steel Back, Copper  
Lead Alloy Liners.

### Main Bearings

Number of Bearings ----- 7  
Type of Main Bearings ----- Replaceable Pre-  
cision Steel Back, Copper  
Lead Alloy Liners.

### Engine Lubricating System

Oil Pressure ----- 40 to 50 PSI with Engine  
Warm and Operating at Rated  
RPM.  
Type System ----- Forced Circulation  
Oil Pump ----- Gear Type, Oil Screen Inlet

Oil Filter ----- Full Flow with Replaceable  
Element.

## **Fuel Injection System**

Fuel Tank Capacity ----- 48 U. S. Gallons  
Fuel Injection Pump ----- Robert Bosch Type  
PES (Multiple Plunger). 31° Before  
Top Dead Center (Port Closing).  
Fuel Injectors ----- Robert Bosch Throttling  
Pintle Type (Opening Pressure 2000  
PSI).  
Fuel Transfer Pump ----- Plunger Type, Integral  
Part of Injection Pump.  
Governor ----- Variable Speed, Fly-Weight Cent-  
rifugal Type; Integral Part of In-  
jection Pump.

### **Fuel Filters**

1st Stage ----- Replaceable Element or  
Cartridge Type.  
2nd Stage ----- Replaceable Element or  
Cartridge Type.  
Final 3rd Stage (If Equipped) ----- Replaceable "Sealed Type"  
Filter  
Fuel Tank Breather ----- Fuel Cap  
Fuel Tank Water Trap and Drain ----- Bottom of Fuel Tank  
Fuel Tank Level Gauge ----- Located on Instrument Panel  
Fuel Pressure Warning Light --- Located on Instrument Panel  
Indicates Condition of Fuel Filters.

# *spark ignition engine*

## **SPECIFICATIONS**

### **General**

Type ----- 6 Cylinder, 4 Stroke Cycle  
Valve-In-Head Engine.  
Firing Order ----- 1-5-3-6-2-4  
Bore ----- 4 Inches  
Stroke ----- 5 Inches  
Piston Displacement ----- 377 Cubic Inches  
Compression Ratio (Gasoline) ----- 7.4 to 1  
(LP Gas) ----- 8.5 to 1  
Valve Clearance (Intake) ----- .010 Inch(Hot)  
(Exhaust) ----- .020 Inch(Hot)  
Rated Engine Speed ----- 1800 RPM  
No Load Governed Engine Speed ----- 1960 RPM  
Engine Idling Speed ----- 600 RPM  
Cylinder Sleeves ----- Removable Wet Type

\*Hot Settings Are Made At Low Idle After the Engine has Operated  
At Thermostat Controlled Temperature For At Least Fifteen Minutes.

### **Pistons and Rods**

Number of Compression Rings ----- 3  
Number of Oil Rings ----- 1  
Piston Pins ----- Full Floating Type  
Type of Connecting Rod Bearings ----- Replaceable Pre-  
cision Steel Back, Copper  
Lead Alloy Liners.

### **Main Bearings**

Number of Bearings ----- 7  
Type of Main Bearings ----- Replaceable Pre-  
cision Steel Back, Copper  
Lead Alloy Liners.

### **Engine Lubricating System**

Oil Pressure ----- 40 to 50 PSI with  
Engine Warm and Operating  
at Rated RPM.



Type System ----- Forced Circulation  
Oil Pump ----- Gear Type, Oil Screen Inlet  
Oil Filter ----- Full Flow With Replaceable Element

### Fuel System(Gasoline)

Fuel Tank Capacity ----- 48 U. S.Gallons  
Carburetor ----- Zenith Model 62  
Flange ----- SAE 1-1/2 Inch  
Fuel Filter ----- In Fuel Pump Lo-  
cated Under Fuel Tank.  
Water Trap ----- Located Under Fuel  
Tank.  
Fuel Gauge ----- Located On Instru-  
ment Panel.

### Fuel System(LP Gas)

Fuel Tank Capacity -----44 U. S. Gallons (80% Full)  
Carburetor ----- Ensign Model Kg 1  
Flange -----SAE 1-1/2 Inches  
Fuel Filter ----- Replaceable Element Type  
Located Near Regulator.  
Fuel Gauge ----- Visual - Located on Rear of  
LP Gas Tank.

### Distributor Ignition

Contact Point Gap ----- .020 Inch  
Dwell Angle ----- 39°  
Static Timing (Gasoline) ----- 4° BTC  
(LP Gas) ----- 2° ATC  
Running Timing at 1800 RPM (Gasoline) ----- 28° BTC  
(LP Gas) ----- 22° BTC  
Spark Plugs (Gasoline) ----- Prestolite 18 8 or Equivalent  
(LP Gas) ----- Prestolite 18 3 or Equivalent  
Thread ----- 18 MM  
Gap (Gasoline) ----- .025 Inch  
(LP Gas) ----- .020 Inch  
Shank Length -----1/2 Inch

# *general specifications*

## **Cooling System**

Capacity (Diesel) ----- 10 U. S. Gallons  
(Spark Ignition) ----- 10.5 U.S. Gallons  
Type of System ----- Pressurized Thermostat Continuous By-Pass Type; Forced Circulation, Impeller Type Pump.  
Radiator ----- Heavy Duty Tube and Fin Type  
Thermostats ----- Starts to Open at 180°F. Fully Open at 204° F.  
Pressure Cap Required ----- 7 PSI  
When using a proper operating 7 PSI pressure cap, the engine temperature can safely rise to 230° F.

## **Electrical System**

Type of System ----- 12 Volt Negative Ground  
Batteries (Diesel) ----- Two 6 Volt Batteries connected in Series (Group 7DA, 204R) 204 Amp. hours at 20 hour rate.  
(Gasoline) ----- Two 6 Volt Batteries connected in Series (Group 4HA, 150R) 150 Amp hours at 20 hour rate.  
Generator ----- 12 Volt  
Voltage Regulator ----- Automatic Type  
Starting Motor ----- 12 Volt  
Headlights ----- 12 Volt Sealed Unit  
Cultivator Lights ----- 12 Volt Sealed Unit  
Tail and Flood Light ----- 12 Volt Sealed Unit Combination  
Electrical Outlet Socket ----- 12 Volt; for Auxiliary Light  
Circuit Breaker ----- Protects the Electrical System from Overloads.

## **Brakes**

Type ----- Heavy Duty Self-Energizing Differential Brakes  
Brake Pedals ----- Can be Locked Together for Road Travel or Used Individually for Steering Assistance.

## **Traction Clutch**

Foot Operated ----- Spring Loaded, Single Disc

## **Power Steering**

Pump Type ----- Belt Driven, Gear or Roller Type  
Reservoir Capacity (Gas and Diesel) ----- 3 U. S. Pints  
(LP Gas) ----- 1.5 U. S. Pints  
Relief Valve Pressure ----- 950 to 1100 PSI

## Transmission

Transmission Case ----- Heavy Cast Iron One Piece Unit Construction Containing All Gears, Shafts, Bearings, Differential and Final Drive.  
Transmission ----- 8 Forward Working Ranges and 2 Reverse  
Final Drive ----- Heavy Duty Gear Drive

## Belt Pulley

Method of Engaging ----- PTO Control Lever  
Pulley Diameter----- 10.50 Inches  
Pulley Face Width ----- 7.25 Inches  
Ratio Engine RPM to Belt Pulley RPM (540 PTO) ----- 1.85 to 1  
(1000 PTO)----- 1.56 to 1  
1 RPM of the Belt Pulley ---- 2.75 Feet Per Minute Belt Travel

## Power Take Off

Rotation ----- Clockwise  
Spline Size (540 RPM) ----- 6 Spline 1.375 Inch Dia.  
(1000 RPM) ----- 21 Spline 1.375 Inch Dia.  
PTO Shaft Speed at 1700 Engine RPM ----- 545 or 1005 RPM

## Drawbars

Standard ----- Full Swinging, Roller Mounted,  
Will accommodate 1.125 inch or  
1.25 inch Dia. Pin. Use Largest  
Pin Drawbar will accept.  
Yoke Type ----- Full Swinging, Roller Mounted,  
Equipped with 1-1/4 inch Dia.Pin.

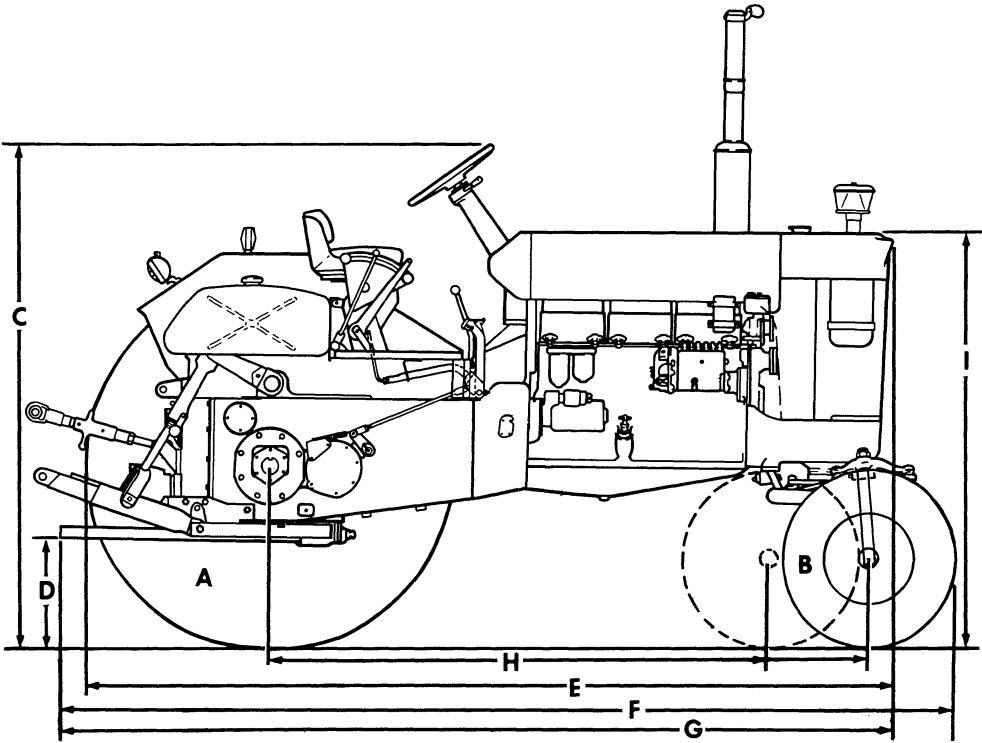
## Hydraulic System

Pump ----- Spur Gear, Continuous Running  
Type Valve Control ----- Hand Lever Operated Dual Valve  
Portable Cylinder Coupling-Case Quick Detachable Breakaway Type  
Portable Cylinder ----- Available  
Pump Capacity at 1500 RPM ----- 12 GPM  
Pump Capacity at 1800 RPM ----- 14.5 GPM  
Relief Valve Pressure ----- 1700 - 1900 PSI

## Draft-O-Matic System

Type of Sensing ----- Lower Link  
Type Control ----- Quadrant Lever  
Type Valve ----- 3 Positions - Raise - Hold - Lower  
Type Draft Arms ----- Swinging, with Manual Float Adjustment  
Type Hitch ----- 3 Point Category II

**APPROXIMATE OVERALL MEASUREMENTS**



Model	A	B	C	D	E	F	G	H	I
931 General Purpose	18.4-34	7.50-15 F2	87	16-1/4		163		108	72
932 Special	15.5-38	10.00-16	88	16	143		150	89	73

A and B Tire Sizes

C thru I Dimensions in Inches

**APPROXIMATE WEIGHTS**

General Purpose ( 931 ) -----7900 Pounds  
Special ( 932 ) -----8300 Pounds

## TIRE AND WHEEL EQUIPMENT

### Front

TIRE SIZE	TIRE PLY	RIM SIZE	TREAD TYPE	Special	General Purpose		Tire Pressure PSI
					Dual	Adj.	
7.50L-15	8	6LB-15	F-2	X	X		32
7.50-16	6	550F-16	F-2	X		X	36
7.50-16	6	550F-16	I-1			X	36
7.50-18	6	550F-18	F-2	X			36
9.00-16	6	550F-16	I-1			X	36
9.50L-15	8	8LB-15	F-2	X		X	32
9.50-20	8	W7B-20	F-2	X		X	32
10.00-16	8	8L-16	F1&F2	X		X	36
11.00L-15	8	8LB-15	F-2	X		X	36
11.00-16	6	8L-16	F-2	X		X	28
11.00-16	8	8L-16	F-1	X		X	36
11.00L-16	8	8L-16	I-1	X		X	36

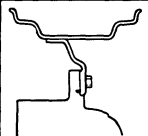
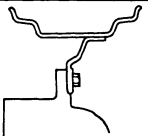


### Rear

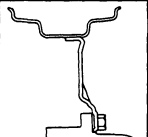
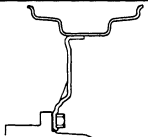




15.5-38	6	W14-38	R1&R2	X	X	18
15.5-38	8	W14-38	R1&R2	X	X	28
15.5-38	6	W14L-38	R1&R2	X	X	18
16.9-34	6	W15L-34	R-1	X	X	16
16.9-34	6	W16L-34	R-1	X	X	16
18.4-34	6	W15L-34	R1&R2	X	X	16
18.4-34	8	W15L-34	R1&R2	X	X	20
18.4-38	8	W16-38	R1&R2	X		20
23.1-30	8	DW20-30	R1&R2	X	X	16
23.1-30	8	W16-34	R1&R2	X		16
23.1-34	8	DW20-34	R1&R2	X		16

**NOTE** Keep tires inflated to recommended pressures. Check tire pressures every 60 hours of operation or once a week, whichever occurs first. Do not reduce rear tire pressure to increase traction. When plowing, increase furrow wheel tire pressure 4 PSI.

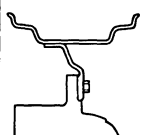



## FRONT WHEEL TREAD SPACING (General Purpose)

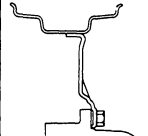
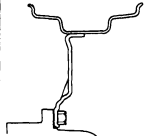
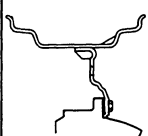

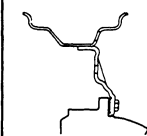

### STANDARD ADJ. AXLE SPACING (INCHES) 108" WHEEL BASE

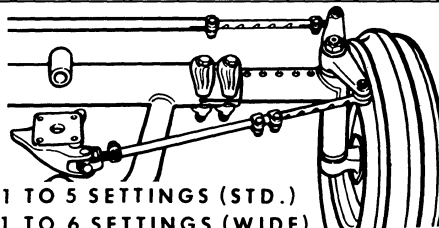
1/4" OFFSET WHEEL		1-1/8" OFFSET WHEEL		CAST WHEELS
				
54 - 70	56 - 72	55 - 75	56 - 76	56 - 76
<b>DUAL FRONT WHEEL</b>		9-1/8	14-1/4	

1-13/16" OFFSET WHL.		1-3/4" OFFSET WHEEL		2-1/4" OFFSET WHEEL	
					
53 - 73	61 - 81	54 - 74	62 - 82	53 - 73	62 - 82

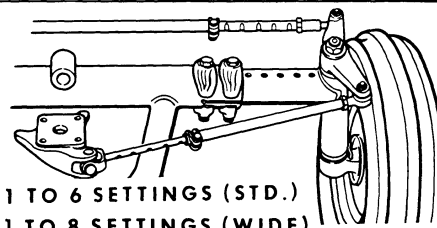
### WIDE ADJ. AXLE SPACING (INCHES) 108" WHEEL BASE

1/4" OFFSET WHEEL		1-1/8" OFFSET WHEEL		CAST WHEELS
				
59 - 79	61 - 81	62 - 90	63 - 91	63 - 91

1-13/16" OFFSET WHL.		1-3/4" OFFSET WHEEL		2-1/4" OFFSET WHEEL	
					
60 - 88	68 - 96	61 - 89	69 - 97	60 - 88	69 - 97



1 TO 5 SETTINGS (STD.)  
1 TO 6 SETTINGS (WIDE)



1 TO 6 SETTINGS (STD.)  
1 TO 8 SETTINGS (WIDE)

**NOTE** Axle spacings listed above are from the narrow setting (with increments of 4 inches) to the wide setting.

**NOTE** When tightening the front wheel bolts, torque 70 to 80 ft.lbs.

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