

TABLE OF CONTENTS

585, 685, 595, 695 Series Tractors

SERIES	SECTION	DESCRIPTION	PUBLICATION
10	GENERAL		
	1000	General Specifications	8-57670
	1005	Special Tools	8-59410
	1230	Fuel System Specifications	8-57721
	1250	Steering System Specifications	8-57570
	1280	Hydraulic System Specifications	8-56930
20	ENGINES		
	2120	Engine Removal - Tractor with XL Cab	8-57160
	2201	Engine Troubleshooting	8-56590
	2310	Separating the Tractor - Tractor without Cab	8-56660
	2315	4 Cylinder Engine Cylinder Head, Valves and Rockers	8-56600
	2325	4 Cylinder Engine Cylinder Block, Pistons and Conrods	8-56610
	2330	4 Cylinder Engine Camshaft and Idler Gear	
		- Tractor without Air Conditioning	8-57100
	2331	4 Cylinder Engine Camshaft and Idler Gear	
		- Tractor with Air Conditioning	8-57190
	2335	4 Cylinder Engine Crankshaft, Bearings and Balancer	8-56620
	2345	4 Cylinder Engine Lubrication System	8-56630
	2355	Engine Cooling System	8-56640
	2410	Engine Removal - Tractor without Cab	8-56670
30	FUEL SYSTEM		
	3310	Fuel System	8-56650
	3311	Fuel Injection Pump VE	8-59020
	3312	Fuel Injection Pump VA	8-57630
	3313	Fuel Injectors	8-57640
	3315	Fuel Tanks - Tractor with XL Cab	8-57180
40	ELECTRICAL		
	4001*	Electrical Troubleshooting and Schematics	7-35861
	4201	Electrical System Troubleshooting.....	8-57010
	4210	Wiring Diagram - Tractor without Cab.....	8-57050
	4225	Wiring Diagram - Tractor with XL Cab.....	8-57080
	4235	Battery Servicing and Testing	8-56980
	4240	Lucas A115 and A127 45 Ampere Alternators and Regulators	8-57030
	4241	Lucas A133 65 Ampere Alternator and Regulator	8-57230
	4330	Starter Motors	8-57020
50	STEERING		
	5015	Steering Pump Removal	8-57600
	5020	Steering Hand Pump	8-56470
	5330	Front Axles 2WD Tractor	8-56700
	5340	Front Axle - Cast Heavy Duty Fixed	8-58940
	5420	Steering Cylinder, 2WD	8-57410
	5425	Steering Cylinder, MFD	8-56460
	5430	Steering Cylinder - Cast Axle	8-58930

Reprinted

SERIES	SECTION	DESCRIPTION	PUBLICATION
60	POWER TRAIN		
	6001	Clutch Controls, Linkage and Thrust Bearing	8-56520
	6030	Rear Axles	8-56480
	6241	Clutch (Rockford Type)	8-56681
	6305	Steering Support Removal - Tractor with XL Cab	8-57210
	6306	Steering Support Removal - Tractor without Cab	8-57240
	6310	Transmission Speedbox	8-56950
	6315	Transmission Rangebox - with Light Duty Park Brake	8-56960
	6320	Power Shift Transmission	8-56970
	6325	Forward/Reverse Transmission - Tractor without Cab	8-56980
	6325	Forward/Reverse Transmission - Tractor with XL Cab	7-35910
	6330	Differential - Transmission with Light Duty Park Brake	8-57290
	6331	Differential - Transmission with Heavy Duty Park Brake	8-57650
	6335	Transmission Rangebox - with Heavy Duty Park Brake	8-56990
	6340	Power Take Off (PTO) Clutch and Lower Shaft - 2WD	8-56540
	6341	Clutch (Laycock Type)	8-56690
	6343	PTO Clutch and Lower Shaft - MFD Tractor	8-59360
	6410	Speedbox Removal - Tractor without Cab	8-56830
	6411	Rangebox Removal - Tractor without Cab	8-57370
	6420	Speedbox Removal - Tractor with XL Cab	8-56850
	6421	Rangebox Removal - Tractor with XL Cab	8-57360
	6430	Creeper Speed Transmission - Tractor with XL Cab	7-35880
	6430	Creeper Speed Transmission - Tractor without Cab	7-36620
	6465	Center Drive MFD Front Axles - (ZF Types APL 325 and APL 330)	8-56530
	6470	Center Drive MFD Front Axle - (ZF Type APL 335)	8-58230
	6471	Axle Hubs and Planetaries (Carraro Type 707-164 and 707 STD-164).....	7-36731
	6472	Axle Removal and Differential (Carraro Type 707-164 and 707 STD-164).....	7-36741
	6473	Carraro Drop Box.....	7-37740
	6475	Center Drive MFD Transfer Gearbox with Dog Clutch	8-57401
	6480	Center Drive MFD Transfer Gearbox with Multi Plate Clutch	8-57220
	6485	MFD Drive Shaft	8-57390
70	BRAKES		
	7105	Disc Brakes	8-57480
	7110	Brake Master Cylinders and Controls	8-57660
	7115	Park Brake - 2WD Tractors	8-58250
	7120	Park Brake - MFD Tractors	8-58260
80	HYDRAULIC SYSTEM		
	8001*	Hydraulic Schematic and Troubleshooting	8-57581
	8005	Hitch Adjustments	8-56920
	8010	Multiple Control Valve (MCV)	8-56870
	8015	Unloading and Flow Control Valve	8-56880
	8020	Filter and Pump	8-56860
	8025	Bosch Remote Valves	8-56890
	8030	Draft Cylinder and Rockshaft	8-56900
	8035	Control Levers and Raise Rate Valve	8-56910
	8040	Hydraulic Housing Removal	8-57250

CHASSIS AND ACCESSORIES

9001*	Pedal and Lever Adjustment	7-35890
9205	Air Conditioning System Troubleshooting	8-58290
9215	Testing Air Conditioning System	8-58300
9225	Servicing Air Conditioning System	8-58900
9235	Servicing Air Conditioning System Components	8-58310
9240	Hood, Fender and Panels - Tractor without Cab	8-56810
9240	Hood and Panels	7-35940
9440	Cab Removal - Tractor with XL Cab	8-56750
9441	Servicing XL Cab	8-58270

* Schematic Set Sections

Click on the image link below for the full version of the service manual



Section 1000

GENERAL SPECIFICATIONS 85 Series Tractors

HAND SIGNALS

For communication under noise conditions and for special operations, a system of standard hand signals has been devised which can decrease time loss and prevent accidents.

Start the Engine



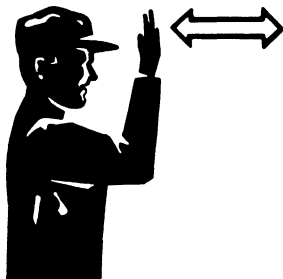
Move arm in a circle at waist level.

Stop the Engine



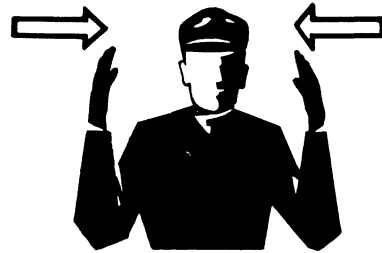
Move your right arm across your neck from left to right.

Move Toward Me - Follow Me



Look toward the person or vehicle you need to move. Hold one hand in front of you with the back of the hand toward the machine and move your arm from the elbow to the fingers backward and forward.

This Far To Go



Put your hands in front of your face with the backs of your hands outward. Move your hands in or out as an indication of how far to go.

Move Out



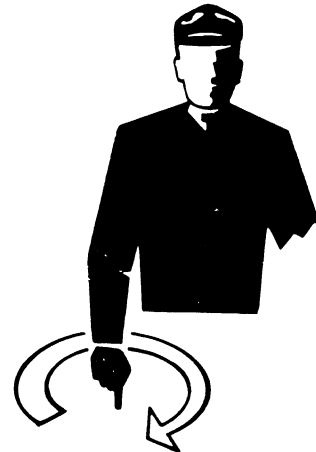
Face in the required direction of travel. Put your arm straight out behind you, then swing your arm over your head and forward until your arm is straight out in front of you with the back of your hand up.

Come To Me

(Can also be "Come to me because I need your assistance"). Lift your arm vertically over your head with the back of your hand to the rear and turn your arm in large horizontal circles.

Raise Equipment

Point up with one finger and at the same time, move your hand in a circle at head level.

Lower Equipment

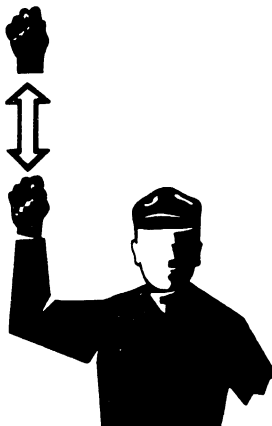
Point to the ground with one finger and at the same time move your hand in a circle.

Decrease Speed

Put your arm out horizontally with the back of your hand up, then move your arm down about 45° minimum many times. Keep your arm straight and do not move your arm above your shoulder.

Stop

Raise your hand fully up with the back of your hand to the rear. Keep this position until the signal is understood.

Increase Speed

Lift your hand to shoulder level with your fingers closed. Move your closed hand fully up, then return to shoulder level. Do this quickly, many times.

SERIAL NUMBERS

Compiled in this manual are the operating and maintenance instructions for the 85 Series Agricultural Tractors

When in need of service parts always quote the tractor, transmission unit, and engine serial numbers, including prefix and suffix letters.

If information is required that is not available in this manual see the nearest authorized Case Dealer.

Transmission Serial Number

EXAMPLE: 293805 BTY

The suffix letters, BTY denote the build of the unit.

The first letter denotes the type of drive train, B = fast speed transmission,
A or D = slow speed transmission.

The second letter denotes the bevel gear ratio,
T = 11:52, S = 14:51 and R = 12:53.

The third letter denotes the operating speeds for the PTO and the number of splines on the upper and lower shafts as shown below.

U	=	555 r/min	6 splines upper shaft
V	=	1000 r/min	6 splines lower shaft
W	=	580 r/min	6 splines upper shaft
X	=	606 r/min	6 splines upper shaft
Y	=	611 r/min	6 splines upper shaft
Z	=	614 r/min	6 splines upper shaft

V denotes that only the lower PTO shaft is fitted, as for compressor drive. When applicable, dual speed installations are indicated by a fourth suffix letter D.

GENERAL SPECIFICATIONS

Specifications for each machine are under individual headings which follow these GENERAL SPECIFICATIONS.

Capacities

Fuel Tanks	UK Value	U.S. Value	Metric Value
XL Tractors	24 6 gal	29.6 gal	112 litres
Non XL Tractors	17 gal	20.3 gal	77 litre
2WD Transmission	7.5 gal	8.9 gal	34 litre
MFD Transmissions	8 gal	9.6 gal	36.5 litre

NOTE: These capacities are only a guide to the quantities. Always use the dipstick or level plug to make sure that units are filled to the correct level.

Electrical System

Type of System 12 Volt, Negative ground

Battery (Rating IEC/BS)

Standard Reserve Capacity 170 minute

Cold Cranking Amperes 420 ampere

Heavy Duty Reserve Capacity 170 minute

Cold Cranking Amperes 510 ampere

Heavy Duty Plus Reserve Capacity 220 minute

Cold Cranking Amperes 510 ampere

Alternators

XL Tractors 65 amp

Non XL Tractors 45 amp

North America with Simms Cab 75 amp

XL Tractors

Head Lamps (2) 12 Volt, 37.5/60 watt sealed beam
or 40/45 watt British prefocus cap (export)

Side Lamps (2) 12 Volt, 10 watt small bayonet cap

Stop Lamps (2) 12 Volt, 21 watt small bayonet cap

Tail Lamps (2) 12 Volt, 10 watt small bayonet cap

Work Lamps 12 Volt, 55 watt Halogen

Registration Number Plate Lamp 12 Volt, 10 watt small bayonet cap

Direction Indicator Lamps (2) 12 Volt, 21 watt small bayonet cap

Instrument Warning Lamps 12 Volt, 1.2 watt capless wedge

Tachometer Lamp 12 Volt, 3 watt capless wedge

Speedometer Lamp 12 Volt, 3 watt capless wedge

Speed Decal Lamp 12 Volt, 1.5 watt capless wedge

Non XL Tractors

Head Lamps 12 Volt, 37.5/60 watt sealed beam
40/45 watt British prefocus cap (export)

Side Lamps (2) 12 Volt, 5 watt festoon

Stop/Tail Lamps (2) 12 Volt, 21/5 watt small bayonet cap

Work Lamp 12 Volt, 35 watt sealed beam

Direction Indicator Lamps (2) 12 Volt, 21 watt small bayonet cap

Registration Number Plate Lamp 12 Volt, 5 watt miniature center contact

Instrument Warning Lamps 12 Volt, 3 watt capless wedge

Tachometer Lamp 12 Volt, 3 watt capless wedge

Speedometer Lamp 12 Volt, 3 watt capless wedge

Panel Lamp 12 Volt, 5 watt festoon

Pistons and Rods

Rings Per Piston	3
Compression Rings Per Piston	2
Oil Rings Per Piston	1
Type of Piston Pin	Full Float
Type of Bearings	Replacement Bearings Available Steel Back with Copper and Lead Liners

Main Bearings

Tractors 385 and 485	3
Tractors 585 685 and 885	5
Type of Bearings	Replacement Bearings Available Steel Back with Copper and Lead Liners

Engine Lubrication System

Type of System	Pressure Spray
Oil Pump	Gear Type
Oil Filter	Full Flow, Turn on Type, Bypass

Fuel System

Fuel Injection Pump	Robert Bosch Type CR
Fuel Transport Pump	None
Governor	Variable Speed, Part of the Fuel Injection Pump
First Stage Fuel Filter	Full Flow Element Type or Turn on Type
Second Stage Fuel Filter	Full Flow Element Type or Turn on Type
Water Trap and Drain for the Fuel Tank	Location is in the Bottom of the Fuel Filters
Fuel Gauge	Location is On the Instrument Panel
Fuel Level Gauge	Location is on the Instrument Panel
Fuel Strainer	None

Air Intake System

Type	Dry Type Air Induction System, Two Stage, with Dust Unloader
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Cooling System

Type	Pressure System, Thermostat Controlled Bypass, Impeller Type Pump
Radiator	Fin and Tube Type
Thermostat	Starts to Open at Approximately 180 Degrees F (82 Degrees C) Fully Open at 203 Degrees F (94 Degrees C)
PressureCap	9 to 12 PSI (62 to 82 kPa)
Water Level Monitor	None
Water Temperature Gauge	Location is on the Instrument Panel

Tractor Brakes

Type	Wet, Hydraulic, Self-Adjusting, Single Disc
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Clutch

Type	Hydraulic Operated, Self Adjusting (XL only), Single Dry Plate
	U.S Value Metric Value
Plate Diameter	385, 485 and 585 11 in 280 mm
	685 and 885 12 in 305 mm

Transmissions

BASIC

Type 4 Speed Synchromesh with High/Low Ranges and Reverse

Number of Gears 8 Forward, 4 Reverse

Controls 2 Levers

OPTIONAL (Not 885/885XL)

Type	Forward/Reverse
.....	

Same as Synchromesh, plus a Hydraulically Operated Forward and an Increased Speed Reverse

Number of Gears 8 Forward, 8 Reverse

Controls 3 Levers

OPTIONAL

Type 2 Speed Power Shift

**Same as Synchromesh, Plus Hydraulically
Operated Speed Decrease in all Gears**

Number of Gears 16 Forward, 8 Reverse

Controls 2 Levers and an Electrical Switch

Foot Brakes

Type Hydraulic, Self Adjusting, Oil Cooled Discs

	U.S. Value	Metric Value
Disc Diameter	10 in	254 mm

Hydraulic System

Type Independent, with Fully Live Hydraulic Pump in the Transmission

Operating Pressure 175 kg/cm² (2500 lb/in²)

Steering

Type Hydrostatic

Turning Radius with Brake Assistance:	2WD 132 in	3352 mm
(with MFD engaged) MFD 146 in		3708 mm

(with MFD engaged) MFD 146 in 3708 mm

Turning Radius without Brake Assistance: 2WD 151 in 3835 mm

(with MFD engaged) MFD 171 in 343 mm

Differential Lock

Type Mechanical Actuated by the Operators Right Foot

Hitch system

Type of Sensing	Upper Link
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Type of Control Hand Lever

Type of Valve Four-Position, Hold, Lift, Lower, and Float

Type of Draft Arms Rigid, Swing Type, Manual Float Adjuster

Type of Hitch	385and 485 Three Point, Catergory one and Two
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585, 685 and 885 Three Point, Category Two

Quick Hitch Coupler (Available)

385 SPECIFICATIONS

General

Diesel Engine Model	D 155
Number of Cylinders	3
Firing Order	1-3-2
Engine Speeds	
Rated	2200 r/min
Low Idle	700 ± 50 r/min
Static Timing (BTDC)	10 Degrees

	U.S Value	Metric Value
Bore	3.87 in	98.4 mm
Stroke	4.37 in	111.1 mm
Displacement	155 in ³	2536 cm ³
Valve Clearances (hot)		
Inlet	0.012 in	0.30 mm
Exhaust	0.012 in	0.30 mm

Fuel System

Injection Nozzle type	DLLA 150S 836
Nozzle Holder type	KBEL 84S 4/13

Lubrication System

Crankcase Capacity (including filter)	13.2 UK pints	2 U.S. gal	7.5 litre
Oil Pressure	40 to 60 PSI		275 to 414 kPa

Cooling System

Cooling System Capacity (including heater)	2.5 UK gal	3 U.S. gal	11.4 litre
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Drawbar Heights

Swinging Drawbar Top	13.9 in	353 mm
Automatic Hitch Drawbar	15.6 in	396 mm
Automatic Hitch Hook	13.2 in	335 mm

Hydraulic System

Pump Output at Rated Engine Speed of 2200 r/min		
with 27 Tooth Drive Gear	10 UK or 12 U.S. gal min	46 litre min
with 23 Tooth Drive Gear	12 UK or 14 U.S. gal min	54 litre min
with 21 Tooth Drive Gear	13 UK or 15.6 U.S. gal min	59 litre min
Maximum Lift Capacities		
Lower Links horizontal	3700 lb	1680 kg
Through range of 780 mm (31 in)	3100 lb	1400 kg
Lower Link Length	28.95 in	735 mm

Maximum Static Loadings

	U.S Value	Metric Value
Axles, Off Road Operation		
2WD Front Axle, Straight, Deep Box		
at 1530 mm (60 in) Tread	6173 lb	2800 kg
at maximum tread	3527 lb	1600 kg
APL 330 MFD Axle, at 1694 mm (67 in) Tread	5732 lb	2600 kg
APL 330 MFD Axle, at Maximum Tread	4409 lb	2000 kg
Rear Axle, at 1530 mm (60 in) Tread	9259 lb	4200 kg
Rear Axle, at Maximum Tread	7054 lb	3200 kg
Drawbars		
Swinging and auto hitch drawbar	1000 lb	454 kg
Auto hitch hook	3000 lb	1361 kg

Maximum Permitted Weights

For Road Operations		
2WD Front Axle	3086 lb	1400 kg
MFD Axle	3527 lb	1600 kg
Rear Axle	10 582 lb	4800 kg
Total Tractor Weight	12 125 lb	5500 kg

Power Take Off

PTO r/min. at Rated Engine Speed of 2200 r/min	
Upper Shaft	614
Lower Shaft	1004
Engine Speed at 540 PTO r/min	
Upper Shaft	1936
Engine Speed at 1000 PTO r/min	
Lower Shaft	2190

Mechanical Front Drive (M.F.D.)

Axle Type	ZF APL 330
Transfer Gearbox Operation	Mechanical Dog Clutch

485 SPECIFICATIONS

General

Diesel Engine Model	D 179
Number of Cylinders	3
Firing Order	1-3-2
Engine Speeds	
Rated	2180 r/min
Low Idle	750 ± 50 r/min
Static Timing (BTDC)	14 Degrees

	U.S Value	Metric Value
Bore	3.785 in	98.4 mm
Stroke	5.06 in	128.5 mm
Displacement	179 in ³	2934 cm ³
Valve clearances (hot)		
Inlet	0.012 in	0.30 mm
Exhaust	0.012 in	0.30 mm

Fuel System

Injection Nozzle Type	DLLA 150S 836
Nozzle Holder Type	KBEL 84S 4/13

Lubrication System

Crankcase Capacity			
(including filter)	13.2 UK pints	8 U.S qts	7.5 litre
Oil Pressure	40 to 60 psi		275 to 414 kPa

Cooling System

Cooling Capacity			
(including heater)	2.5 UK gal	3 U.S gal	11.4 litre

Drawbar Heights

Swinging Drawbar Top	13.9 in	353 mm
Automatic Hitch Drawbar	15.6 in	96 mm
Automatic Hitch Hook	13.2 in	335 mm

Hydraulic System

Pump Output at Rated Engine Speed of 2180 r/min		
With 27 Tooth Drive Gear	10 UK or 12 US gal min	46 litre min
With 23 Tooth Drive Gear	12 UK or 14.4 US gal min	54 litre min
With 21 Tooth Drive Gear	13 UK or 15.6 US gal min	59 litre min
Maximum Lift Capacities		
Lower Links Horizontal	3 700 lb	680 kg
Through Range of 780 mm (31 in)	3 100 lb	1400 kg
Lower Link Length	28.95 in	735 mm

Maximum Static Loadings

Axles, Off Road Operation	U.S Values	Metric Value
2WD Front Axle, at 1530mm (60 in) Tread	6172 lb	2800 kg
2WD Front Axle, at Maximum tread	3527 lb	1600 kg
APL 325 MFD Axle, at 1694 mm (67 in) Tread	5732 lb	2600 kg
APL 325 MFD Axle, at Maximum tread	4409 lb	2000 kg
APL 330 MFD Axle, at 1694 mm (67 in) Tread	5732 lb	2600 kg
APL 330 MFD Axle, at Maximum tread	4409 lb	2000 kg
APL 335 MFD Axle, at 1694 mm (67 in) Tread	6084 lb	2760 kg
APL 335 MFD Axle, at Maximum Tread	4409 lb	2000 kg
Rear Axle, at 1530mm (60 in) tread	11 023 lb	5000 kg
Rear Axle, at Maximum Tread	7275 lb (3300 kg)	

Drawbar

Swinging Drawbar and Automatic Hitch

drawbar	1000 lb	454 kg
Automatic Hitch Hook	3000 lb	1361 kg

Maximum Permitted Weights

For Road Operations

2WD Front Axle, Straight Deep Box	3086 lb	1400 kg
MFD Axles	3527 lb	1600 kg
Rear Axle	10 582 lb	4800 kg
Total Tractor Weight	12 125 lb	5500 kg

Power Take Off

PTO r/min. at Rated Engine Speed

Upper Shaft	614
Lower Shaft	1004
Engine Speed at 540 PTO r/min	
Upper Shaft	1936
Engine Speed at 1000 PTO r/min	
Lower Shaft	2190

Mechanical Front Drive (M.F.D.)

XL Tractors

AxleType (Standard)	ZF APL 325
(Optional)	ZF APL 330
(Heavy Duty)	ZF APL 335

Transfer Gearbox Operation	Multiplate Clutch
	Electrical/Hydraulic Disengagement
	Engaged by Spring Pressure

Non XL Tractors

AxleType (Standard)	ZF APL 330
Transfer Gearbox Operation	Mechanical Dog Clutch