Information and Instructions

This shop manual contains several sections each covering a specific group of wheel type tractors. The Tab Index on the preceding page can be used to locate the section pertaining to each group of tractors. Each section contains the necessary specifications and the brief but terse procedural data needed by a mechanic when repairing a tractor on which he has had no previous actual experience.

Within each section, the material is arranged in a systematic order beginning with an index which is followed immediately by a Table of Condensed Service Specifications. These specifications include dimensions, fits, clearances and timing instructions. Next in order of arrangement is the procedures paragraphs.

In the procedures paragraphs, the order of presentation starts with the front axle system and steering and proceeding toward the rear axle. The last paragraphs are devoted to the power take-off and power lift systems. Interspersed where needed are additional tabular specifications pertaining to wear limits, torquing, etc.

HOW TO USE THE INDEX

Suppose you want to know the procedure for R&R (remove and reinstall) of the engine camshaft. Your first step is to look in the index under the main heading of ENGINE until you find the entry "Camshaft." Now read to the right where under the column covering the tractor you are repairing, you will find a number which indicates the beginning paragraph pertaining to the camshaft. To locate this wanted paragraph in the manual, turn the pages until the running index appearing on the top outside corner of each page contains the number you are seeking. In this paragraph you will find the information concerning the removal of the camshaft.

SUPER AND NON-SUPER 66-77-88-770-880

INDEX (By Starting Paragraph)

	Super	and Non-Super
MODELS	66	77-88-770-880
BELT PULLEY	585	585
BRAKES Band type	575	575
	575 578	578
Disc type	576	578
CARBURETOR		400
Gasoline and distillate	460	460
LPG carburetor—Century		470 473
LPG filter LPG regulator		473
LPG trouble-shooting		476
CLUTCH		
Engine clutch adjustment	541	541
Engine clutch R&R	542	542
Engine clutch overhaul	543	543
Power take-off clutch	590	590
Power Booster clutch		544
COOLING SYSTEM		
Pump	522	522
Radiator	520	520
Thermostat	521	521
DIESEL SYSTEM		
Energy cells	494	494
Fuel supply pump	496	496
Fuel system bleeding	482	482
Governor adjust	489A	4897
Nozzles, locating faulty	490	490
Nozzles, testing	493 491	493 491
Nozzles, R&R Nozzle, servicing	491	491
Preheater	495	492
Injection pump, R&R	488	488
Injection pump, timing	486	486
Trouble-shooting	481	481
Smoke stop adjustment	488A	4888
DIFFERENTIAL		
Overhaul	562	562
Remove and reinstall	560	560
ELECTRICAL		
Ignition	529	529
Generator and regulator	525	525
Starting motor	526	526
ENGINE		
Assembly, R&R	430	430
Cam followers	436	436
Camshaft	441	441
Connecting rods and bearings	445	445
Crankshaft and bearings	447	447
Cylinder head	431	431
Cylinder sleeves	443	443
Flywheel	450	450
Front oil seal	439	439
Main bearings	447	447
Pistons	443	443
Oil pump and relief valve Piston pins	452 444	452 444
Piston and rod removal	442	442
Piston rings	443B	443E
Rear oil seal	449	449
Rocker arms	437	437
Tappets	436	436
Timing gear cover	439	439
Timing gears	440	440
Valve guides	433	433

	Super	and Non-Sup	er
MODELS	66	77-88-770-8	80
Valve rotators	434	1	34
	434		34 35
Valve springs			33 38
Valve timing Valves and valve seats	438		
	432	4	32
FINAL DRIVE			
Bevel gears adjust	563	5	63
Bevel gears renew	564	5	64
Bull gear, R&R	566	5	66
Bull pinion, R&R	565	5	65
Differential overhaul	562	5	62
Differential, R&R	560		60
Wheel axle bearings, renew	569	-	69
Wheel axle and hsg., R&R	568		68
Wheel axle shaft oil seal, renew	570		70
Wheel axle shaft, renew	569	-	69
	005	5	00
FRONT SYSTEM			
Front axle member	408	4	80
Support, overhaul	404	4	04
Pivot pin	410	4	10
Radius rod	409	4	09
Spindle (knuckle)	411	4	11
Steering gear (tricycle)	401	4	01
Steering gear (axle)	415	4	15
Steering gear (power)	425A	4	25A
		-	
GOVERNOR		_	
Adjustment—non-Diesel engines	510		10
Adjustment—Diesel engines	489A		89A
Overhaul—non-Diesel engines	511A		11A
R&R non-Diesel engines	511	5	11
IGNITION SYSTEM			
Battery ignition timing	530	5	30
Magneto ignition timing	533		33
		•	
LIFT SYSTEM—Hydraulic	005	0	05
Bleeding system	605		05
Flushing system	606		06
Electrical system	616	-	16
Fluid recommendations	604		04
Pump	607		07
Relief valve, test & adjustment	609		09
Trouble-shooting	600		00
Valves, R&R and overhaul	610	6	10
Work cylinder	640	6-	40
LIFT SYSTEM—Mechanical	650	6	50
POWER BOOSTER		5	44
POWER TAKE-OFF			
Clutch adjustment	590	5	90
Clutch overhaul	591		91
Complete unit, R&R	594		94
Drive shaft, R&R	592	-	92
		0.	52
STEERING GEAR MANUAL	415	4	15
STEERING GEAR, POWER	425A	4	25A
TRANSMISSION			
Basic procedure	550	5	50
Bevel pinion	556		56
Countershaft	555		55
Input shaft	553		53 53
Mainshaft	553		53 53
Overhaul preparation	552		52
Power bocster, overhaul			44B
Reverse idler	557		57
Reverse idler, multiple	558		58
Shifter rails and forks	554	5	54

+

Index

INDEX (By Starting Paragraph)

MODELS	99 6 Cyl.	Super HC & D	99—— GM
BELT PULLEY	146	145	145
BRAKES	143	143	143
CARBURETOR	29	29	None
CLUTCH			
Engine clutch adjustment	125A	125 A	125 A
Engine clutch application	125	125	125
Engine clutch R & R	125C	125C	125C
Engine clutch overhaul	125D	125D	125D
Power take-off clutch	145E	145E	145E
COOLING SYSTEM			
Pump	46	46	113
Radiator	45	45	110
Water nozzles			61E
DIESEL SYSTEM			
Injector Rack	-		87
Injector Hole Tubes			61C
Fuel Manifold			100
Energy Cells	41	41	None
Fuel supply pump	43	43	99
Fuel system bleeding	37	37	None
Governor adjust	38	38	103
Nozzles testing	40A	40A	92
Nozzles R & R	40B	40B	91
Nozzle servicing	40C	40C	93
Injection pump R & R	36F	36F	91
Injection pump timing Trouble shooting	36 32	36 33A	90 85A
Starting Aid	32 42	33A 42	101
		44	101
DIFFERENTIAL			
Overhaul	131	130B	130B
Remove & reinstall	131	130	130
ELECTRICAL			
Ignition	52	52	None
Generator & regulator	50	50	115
Starting motor	51	51	116
ENGINE			
Assembly R & R	10	10	60
Balance Shaft			69
Blower (Supercharger)			76
Cam followers	15	15	64
Camshaft	19	19	67
Connecting rods & brgs	23	23	70H
Crankshaft & bearings	24	24	71
Cylinder head	11	11	61
Cylinder sleeves Flywheel	21	21	70A
Front oil seal	26 17	26 17	73 72E
Main bearings	24	24	725
Oil Cooler	<u></u>	<u></u>	74G
Oil pump & relief valve	27	27	74A
Pistons	21	21	70A
Piston pins	22	22	70F
Piston & rod removal	20	20	70
Piston rings	21B	21B	70E
Rear oil seal	25	25	72
Rocker arms	16	16	65
Tappets	15	15	64
Timing gear cover	17	17	66

MODELS	99 - 6 Cyl.	Super HC & D	GM
Timing gears	18	18	66B
Tune-up			86
Valve guides	12	12	62
Valve rotators	13	13	None
Valve springs	14	14	63
Valve timing	18A	18A	66B
Valves & valve seats	12	12	62
FINAL DRIVE			
Bevel gears	134	132	132
Bull gear	141	137	137
Bull pinion	140	136	136
Differential	131	130	130
Wheel axle shaft, & bearings	142	138	138
-			
FRONT SYSTEM			
Bolster	7A	7A	7A
Pivot pin bearings	6B	6B	6B
Radius rod	7B	7B	7B
Spindles	4	4	4
Spindle (knuckle) carriers	6	6	6
Steering gear	1A	1A	1A
Wheel bearings	6A	6A	6A
······································			
GOVERNOR			
Adjustment—non-Diesel engines	44	44	None
Adjustment—Diesel engines	38	38	103
Overhaul—non-Diesel engines	44A	44A	None
Overhaul Diesel engines			105
R & R non-Diesel engines	44A	44A	None
R & R Diesel engines			104
-			
IGNITION SYSTEM			
Battery ignition timing	53	53	None
Magneto ignition timing	54	54	None
LIFT SYSTEM—Hydraulic			
Fluid recommendations	147	147	147
Depth control type	149	149	149
Non-Depth control type	150	150	150
Pump	149C	149C	149C
Relief valve adjustment	148	148	148
Pump test specifications	149E	149E	149E
Control valve depth system	149A	149A	149A
Control valve non-depth system.	150A	150A	150A
Work cylinder Hydro-Stop	149	149	149
POWER TAKE-OFF			
Clutch adjustment	None	145E	145E
Clutch overhaul	None	145F	145F
Complete unit R & R	146D	145L	145L
Drive shaft R & R	146D	145H	145H
STEERING GEAR	1	1	1
TRANSMISSION			
Basic procedure		127	127
Bevel pinion	129C	128K	128K
Input shaft	129A	128J	12 8J
Intermediate shaft		128F	128F
Mainshaft	129A	128]	128J
Poppet interlock block		128B	128 B
Reverse idler	129B	128H	128H
Shifter rails & forks	129	128A	128A
Siding gear shaft	129 A	128K	128K

SHOP MANUAL

OLIVER

MODELS SUPER 55HC - SUPER 55 DIESEL - 550 HC - 550 DIESEL

IDENTIFICATION

Tractor serial number and tractor specification number plate is located on the left hand side of the tractor center frame. Engine serial number is stamped on right side of engine rear flange.

INDEX (By Starting Paragraph)

AXLE, FRONT 1 AXLE, REAR 115 BELT PULLEY 123 BRAKES 120	5
CLUTCH Engine (Traction) Clutch)
COOLING SYSTEM 73 Pump 73 Radiator 70 Thermostat 71)
DIFFERENTIAL 100)
DIESEL SYSTEM40Bleeding42Components of System40Energy Cells (Precombustion Chambers)60Fuel Transfer Pump62Governor, Adjust52Injection Pump42Hydraulic Head45Injection Pump Timing46Nozzle (Injector) Removal56Nozzle Servicing57Prehectter61Smoke Stop Adjustment50Trouble-Shooting (Injection Pump)43	
ELECTRICAL Ignition	5
ENGINE10Assembly R&R10Cam Followers16Camshaft19Connecting Rods R&R.20Connecting Rods and Bearings25Crankshaft and Bearings26Crankshaft Oil Seals29Cylinder Head11Cylinder Sleeves22Flywheel31Oil Pump and Relief Valve33Piston Rings24Piston Rings23Pistons21Rocker Arms12Tappets (Cam Followers)16Timing Gears18Valve Guides13Valve Rotators15Valve Springs14Valve Springs14	A

FINAL DRIVE AND TRANSMISSION Bevel Drive Pinion	95
Bevel Gears Renew Bevel Gear Bull (Pinion) Bearings	95 106 110
Bull Gear	111
Bull Pinion Clutch Shaft (Main Traction)	110 89
Countershaft Differential	96 100
High and Low Range Gears	94
Input Double Gear Reverse Idler	92 97
PTO Drive Gear Shifter Rails and Forks	93 91
Sliding Gearshaft	95
Top Cover Trαctor Split81Α δ	90 86
Wheel Axle Bearings Wheel Axle Housing	115 116
-	110
FRONT SYSTEM AND STEERING Axle, Front	1
Front Support Pivot Pin, Front Axle	5 4
Power Steering(Refer to separate Appendix 1)	
Spindles and Bushings Steering Gear, Adjust	2 6
GOVERNOR Non-Diesel Models	65
Diesel Models	51
LIFT SYSTEM	
Internal Control Valve Control Adjustment	155 150A
Cylinder	156 144
Fluid and Filling Linkage Adjustment	$144 \\ 148$
Hydraulic Housing Pump	152 153
Lift Arms and Cross Shaft	157
Main System Remote System Testing and Relief Valve Setting	152 160
Testing and Relief Valve Setting Trouble Shooting	151 145
MANUAL STEERING GEAR	6
POWER STEERING (Page 57)	ls
POWER TAKE-OFF	
Clutch Adjustment	130 132
Clutch Drum or Spider	132A
Drive Pinion Shaft Drive Shaft	135 138
External (Stub) Shaft	138 81A
TRACTOR SPILI	84

OLIVER SHOP MANUAL SUPPLEMENT

Series ■ Super 99GMTC ■ 950 ■ 990 ■ 995

This supplement provides methods for servicing the Super 99GMTC, 950, 990 and 995 tractors which, except for the differences covered in this supplement, are serviced in the same manner as the Super 99 and Super 99 GM models covered in the previous section of this book or in I & T SHOP SERVICE MANUAL No. 0-7.

IDENTIFICATION

Model 950 tractors have the tractor serial and specification numbers stamped on a metal plate which is affixed to left side of clutch dust cover. Engine serial number is stamped on right rear mounting flange of engine.

Models Super 99GMTC, 990 and 995 have the tractor serial and specification numbers stamped on a metal plate which is affixed to the left side of the clutch dust cover. Engine serial number appears in two places: On a metal plate affixed to engine valve cover and on left side of cylinder block.

INDEX (By Starting Paragraph)

In the index which follows, the first column lists the tractor components, the 2nd & 4th columns list the beginning paragraph number located either in this supplement or in the previous section covering the Super 99 tractor in which the desired service information will be found. The 3rd & 5th columns list which section of this manual contains the desired paragraph number.

		odel IC & D Manual Section		ls Super C-990-995 Manual Section
BELT PULLEY	145	Super 99	145	Super 99
BRAKES	143	Super 99	143	Super 99
CARBURETOR	29	Super 99		
CLUTCH		*		
Engine clutch adjustment	125A	Super 99	125A	Super 99
Engine clutch R&R (except 99GMTC & 995)	125C	Super 99	125C	Super 99
Engine clutch R&R (99GMTC & 995)	125D	Super 99	$\begin{array}{c} 28 \\ 125 \mathrm{D} \end{array}$	This Supplement Super 99
Power take-off clutch.	145E	Super 99	145E	Super 99 Super 99
COOLING SYSTEM	14012	Super 55	14012	Super 55
Pump	46	Super 99	113	Super 99
Radiator	45	Super 99	110	Super 99
Water nozzles		····	61E	Super 99
DIESEL SYSTEM				
Injector rack			87	Super 99
Injector hole tubes			61C	Super 99
Fuel manifold			100	Super 99
Energy cells	41	Super 99		
Fuel supply pump	43	Super 99	99	Super 99
Fuel system bleeding	37	Super 99	:::	~
Governor adjust	38	Super 99	103	Super 99
Nozzles testing	40A	Super 99	92	Super 99
Nozzles R&R	40B	Super 99	91	Super 99
Nozzle servicing	40C	Super 99	93	Super 99
Injection pump R&R	36F	Super 99	91	Super 99
Injection pump timing Trouble shooting	36 32	Super 99 Super 99	90 85A	Super 99 Super 99
Starting aid	42	Super 99 Super 99	101	Super 99 Super 99
	42	Super 55	101	Super 33
DIFFERENTIAL Overhaul	130B	Super 99	130B	Super 99
Remove & reinstall	130B	Super 99 Super 99	1306	Super 99 Super 99
ELECTRICAL	100	Super 55	100	Super 55
Distributor	26	This Supplement	26	This Supplement
Generator & regulator.	26	This Supplement	26	This Supplement
Starting motor	26	This Supplement	26	This Supplement
ENGINE	-	11110 Supprement		Time Supprement
Assembly R&R	10	Super 99	60	Super 99
Balance Shaft.			69	Super 99
Blower.			76	Super 99
Cam followers.	15	Super 99	64	Super 99
Camshaft	19	Super 99	67	Super 99
Connecting rods & brgs	23	Super 99	70H	Super 99
Crankshaft & bearings	24	Super 99	71	Super 99
Cylinder head	11	Super 99	61	Super 99

1

Index (Cont.)

	м	lodel	Mode	els Super
		HC & D		FC-990-995
	Paragraph		Paragraph	Manual
	Number	Section	Number	Section
ENGINE continued				
ENGINE—continued		<i></i>		<i>a</i>
Cylinder sleeves	21	Super 99	70A	Super 99
Flywheel	26	Super 99	73	Super 99
Front oil seal	17	Super 99	72E	Super 99
Main bearings	24	Super 99	71	Super 99
		*		
Oil Cooler			74G	Super 99
Oil pump & relief valve	27	Super 99	74A	Super 99
Piston	21	Super 99	70A	Super 99
Piston pins	$\frac{1}{22}$	Super 99	70F	Super 99
Piston & rod removal	20	Super 99	70	Super 99
Piston rings	21B	Super 99	70E	Super 99
Rear oil seal	25	Super 99	72	Super 99
Rocker arms	16	Super 99	65	Super 99
Tappets	15	Super 99	64	Super 99
Timing gear cover	17	Super 99	66	Super 99
Timing gears	18	Super 99	66B	Super 99
Tune-up			86	Super 99
	12	Suman 00	62	
Valve guides		Super 99		Super 99
Valve rotators	13	Super 99		
Valve springs	14	Super 99	63	Super 99
Valve timing	18A	Super 99	66B	Super 99
Valves & valve seats	12	Super 99	62	Super 99
	14	Super 33	04	Super 35
FINAL DRIVE				
Bevel gears	132	Super 99	132	Super 99
	137	Super 99	137	Super 99
Bull gear				
Bull pinion	136	Super 99	136	Super 99
Differential	130	Super 99	130	Super 99
Wheel axle shaft, & bearings	138	Super 99	138	Super 99
	100	Super vv	100	Super ou
FRONT SYSTEM				
Bolster	7A	Super 99	7A	Super 99
Pivot pin bearings	6B	Super 99	6B	Super 99
	7B	Super 99	7B	Super 99
Radius rod				
Spindles	4	Super 99	4	Super 99
Spindle (knuckle) carriers	6	Super 99	6	Super 99
Steering gear	1A	Super 99	1A	Super 99
	6A	Super 99	6A	Super 99
Wheel bearings	OA	Super 99	OA	Super 99
GOVERNOR				
Adjustment—non-Diesel engines	44	Super 99		
Adjustment Disciplenting	38	Super 99	103	
Adjustment—Diesel engines			105	Super 99
Overhaul—non-Diesel engines	44A	Super 99		
Overhaul—Diesel engines			105	Super 99
R&R non-Diesel engines	44A	Super 99		
		*		00
R&R Diesel engines	• • •	• • •	104	Super 99
HYDRAULIC LIFT SYSTEM				
Control Valves	64	This Supplement	64	This Supplement
Electrical Units	70	This Supplement	70	This Supplement
Maintenance	59	This Supplement	59	This Supplement
Pump	63	This Supplement	63	This Supplement
Trouble Shooting	50	This Supplement	50	This Supplement
	00	This Supplement	00	rino Supprement
IGNITION				
Battery ignition timing	27	This Supplement		• • •
POWER STEERING	00		10.00	
Control Valve	20	This Supplement	19, 20	This Supplement
Flow Control Valve	14	This Supplement	14	This Supplement
Lubrication and Bleeding	11	This Supplement	11	This Supplement
Power Cylinder	21	This Supplement	19,21	This Supplement
Pump	15	This Supplement	15, 17	This Supplement
System Operating Pressure	13	This Supplement	13	This Supplement
Trouble Shooting	12	This Supplement	12	This Supplement
		Suppromont		Supprement
POWER TAKE-OFF				
Clutch adjustment	145E	Super 99	145E	Super 99
Clutch overhaul	145F	Super 99	145F	Super 99
Complete unit R&R	145L	Super 99	145L	Super 99
Drive shaft R&R	145H	Super 99	145H	Super 99
STEERING GEAR	1	Super 99	1	Super 99
	-	~ apor ou		-aper ou
TORQUE CONVERTER				
Introduction			30	This Supplement
Overhaul.			40	This Supplement
Preventative Maintenance			38	This Supplement
Remove and Reinstall			39	This Supplement
Testing			34	This Supplement
Trouble Shooting			33	This Supplement
	• • •	• • •	00	The Supprement
TRANSMISSION				
Basic procedure	127	Super 99	127	Super 99
	128K		128K	Super 99
Bevel pinion		Super 99		
Input shaft	128J	Super 99	128J	Super 99
Intermediate shaft	128F	Super 99	128F	Super 99
Mainshaft	128J	Super 99	128J	Super 99
Poppet interlock block	128B	Super 99	128B	Super 99
Reverse idler	128H	Super 99	128H	Super 99
Shifter rails & forks	128A	Super 99	128A	Super 99
Sliding gear shaft.	128K	Super 99	128K	Super 99
onung gear shalt	120N	Super 99	1201	Super 39