

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.

SHOP MANUAL

WHITE

MODELS

2-70

2-85

2-105

2-150

Tractor serial number plate for Model 2-70 tractors is located on rear side of instrument panel support. Tractor serial number plate for Models 2-85, 2-105 and 2-150 is located on left rear side of main frame.

Engine serial number for Model 2-70 is stamped directly below alternator along outer edge of timing gear cover mounting flange. Engine serial number for Models 2-85 and 2-105 is stamped on engine block directly below the injection pump. Engine serial number plate for Model 2-150 is located on right side of engine.

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Bull gears	259	264	272
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Planetary drive	270
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Pivot pin	1	1	1A
Spindle (knuckle)	4	4	4
Tie rods & toe-in	3	3	3
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CONDENSED SERVICE DATA

	Model 2-70	Models 2-85, 2-105	Model 2-150
GENERAL			
Engine Make	Own	Perkins	Own
Cylinders, No. Of	6	6	6
Cylinder Bore—In.	3-3/4G,3-7/8D	3-7/8	4-3/4
Stroke—In.	4	5	5½
Displacement—Cubic In.:			
Non-Diesel	265	.....	.....
Diesel	283	354	585
Compression Ratio:			
Gasoline	8.5:1	.....	.....
Diesel	16.5:1	16:1	15.3:1
Main Bearings, No. Of	7	7	4
Cylinder Sleeves, Type	Wet	Dry	.....
Forward Speeds, No. Of	6	6	6
Battery Terminal Grounded	Neg.	Neg.	Neg.
TUNE-UP			
Firing Order	1-5-3-6-2-4	1-5-3-6-2-4	1-5-3-6-2-4
Valve Tappet Gap Inlet:			
Non-Diesel—Inch	0.020 Cold	.....	.....
Diesel—Inch	0.030 Cold	0.010 Hot	0.010 Cold
Valve Tappet Gap, Ex.:			
Non-Diesel—Inch	0.030 Cold	.....	.....
Diesel—Inch	0.030 Cold	0.010 Hot	0.020 Cold
Valve Face Angle, Degrees	44½	45	46
Valve Seat Angle, Degrees	45	45	45
Ignition Distributor Make	Holley	.....	.....
Ignition Distributor Model	D-2563AA	.....	.....
Alternator Make	D-R	D-R	D-R
Starting Motor Make	D-R	D-R	D-R
Starting Motor Model	See Par. 187G	See Par. 187G	See Par. 187G
Ignition Distr. Contact Gap	0.025	.....	.....
Ignition Distributor Timing	See Par. 187C	.....	.....
Injection Pump Make	Roosa	CAV	Roosa
Injection Pump Timing (Static)	4°BTDC	30°BTDC	4°ATDC
Carburetor Make			
	Marvel	.....	.....
	Schebler	.....	.....
Carburetor Model	TSX807	.....	.....
Engine Low Idle Rpm	800	800	800
Engine High Idle Rpm	2430G,2450D	2380	2305-2365
Engine Rated Rpm	2200	2200	2200
Pto Rpm At Engine Rated Rpm:			
540 Rpm Pto	550	550	550
1000 Rpm Pto	994	994	994

SHOP MANUAL

WHITE

MODELS

2-135

2-155

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Fuel filler	48	48
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Fuel system bleeding	50	50
Governor adjust	62	62
Nozzles, testing	53	53
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Injection pump, timing	60	60
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Turbocharger	66A	66A
DIFFERENTIAL		
Overhaul	110	110
Remove and reinstall	108	108
ELECTRICAL		
Alternator	70	70
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Starting motor	72	72
ENGINE		
Assembly, R&R	18	18
Cam followers	26	26
Camshaft	31	31
Connecting rod bearings	37	37
Crankshaft and bearings	38	38
Cylinder head	20	20
Flywheel	41	41
Front oil seal	39	39
Main bearings	38	38
Oil cooler	45	45
Oil pump	42	42
Pistons	33	33
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Valves and valve seats	21	21
FINAL DRIVE		
Rear axle	112	112
Axle carrier	112	112
Planetary	112	112
Differential	108	108
Wheel axle shaft	112	112
FRONT SYSTEM		
Front axle member	1	1
Front carrier	3	3
Pivot pin	1	1
Spindle (knuckle)	2	2
Tie rods & toe-in	4	4
HYDRAUL SHIFT	79	79
LIFT SYSTEM, HYDRAULIC		
Draft control spring, adjust	189	189
Draft input shaft	181	181
Drain and refill	150	150
Hitch control lever	180	180
Hydraulic housing	177	177
Lubrication and maintenance	149	149
Cylinder and piston	185	185
Manifold	184	184
Oil cooler	191	191
Oil filter	153	153
Filter head	154	154
Pump	171	171
Pressure relief valve	164	164
Quick check	137	137
Remote cylinders	200	200
Remote valves	192	192
Rockshaft	178	178
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TRANSMISSION		
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Countershaft	102	102
Input shaft	100	100
Lubrication system	91	91
Park lock latch	107	107
Reverse idler	106	106
Shifter rails & forks	99	99
Top cover	98	98

SHOP MANUAL

WHITE

MODELS 2-30 2-35

The tractor serial number plate is attached to left front side of tractor frame. Engine serial number is stamped on right front side of cylinder block below number one injector.

INDEX (BY STARTING PARAGRAPH)

	Model 2-30	Model 2-35
BRAKES		
Adjustment	60	60
R&R and Overhaul	61	61
CLUTCH, ENGINE		
Adjustment	52	52
R&R and Overhaul	53	53
COOLING SYSTEM		
Fan and Fan Belt	47	47
Radiator	44	44
Thermostat	45	45
Water Pump	46	46
DIESEL FUEL SYSTEM		
Filter and Bleeding	33	33
Fuel Feed Pump	35	35
Fuel Injection Pump	37	37
Injection Nozzles	41	41
DIFFERENTIAL		
Backlash Adjustment	57	57
R&R and Overhaul	58	58
ELECTRICAL SYSTEM		
Alternator	50	50
Glow Plugs	48	48
Starter Motor	51	51
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ENGINE		
Assembly, R&R	14	14
Camshaft and Cam Followers	23	23
Connecting Rods and Bearings	27	27
Crankshaft and Bearings	28	28
Crankshaft Oil Seals	29	29
Cylinder Head	15	15
Flywheel	31	31
Oil Pump	32	32
Piston Pin and Bushing	26	26
Pistons and Rings	25	25
Rod and Piston Units	24	24
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Timing Gears	22	22
Valve Clearance Adjustment	16	16
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FINAL DRIVE AND REAR AXLE		
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FRONT SYSTEM		
Axle Main Member	1	1
Steering Spindles and Busings	3	3
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This service manual provides specifications in both the Metric (SI) and U.S. Customary systems of measurement. The first specification is given in the measuring system used during manufacture, while the second specification (given in parenthesis) is the converted measurement. For instance, a specification of "0.28 mm (0.011 inch)" would indicate that the equipment was manufactured using the metric system of measurement and the U.S. equivalent of 0.28 mm is 0.011 inch.

CONDENSED SERVICE DATA

	Model 2-30	Model 2-35
GENERAL		
Engine Make	_____	Isuzu _____
Number of Cylinders	_____	3 _____
Bore	_____	86 mm _____
		(3.386 in.) _____
Stroke	86 mm	102 mm
	(3.386 in.)	(4.016 in.)
Displacement	1498 cc	1777 cc
	(91 cu. in.)	(108 cu. in.)
Cylinder Sleeves	_____	None _____
Forward Speeds, Number of	_____	8 _____
Battery Terminal Grounded	_____	Negative _____

SHOP MANUAL

WHITE

MODELS

2-45

2-62

Tractor serial number plate is attached to tractor frame on left side. Tractor serial number is also stamped on left side of transmission case under operator's platform. Engine serial number is stamped on left front side of engine block behind alternator.

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R&R and Overhaul	80	80
CLUTCH, ENGINE		
Adjustment	64	64
Remove and Reinstall	65	65
Overhaul	66	66
COOLING SYSTEM		
Fan and Fan Belt	59	59
Radiator	56	56
Thermostat	57	57
Water Pump	58	58
DIESEL FUEL SYSTEM		
Filters and Bleeding	45	45
Fuel Feed Pump	47	47
Fuel Injection Pump	49	49
Injection Nozzles	53	53
DIFFERENTIAL		
Backlash Adjustment	77	77
Bearing Adjustment	76	76
Remove and Reinstall	74	74
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ELECTRICAL SYSTEM		
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ENGINE		
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Camshaft, Bearings and Cam Followers	33	33
Compression Test	24	24
Connecting Rod and Bearings	38	38
Crankshaft and Bearings	39	39
Crankshaft Oil Seals	40	40
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Cylinder Head	25	25
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Tie Rods and Toe-in	2	2
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SHOP MANUAL

WHITE

MODELS

2-55

2-65

2-75

Tractor serial number is stamped on plate attached to left side of tractor frame and is also stamped on front frame at lower left corner of radiator grille. Engine serial number is stamped on left front side of engine block behind alternator of Models 2-55 and 2-65. On Model 2-75, engine serial number is stamped on lower left side of engine block next to front mounting pad.

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COOLING SYSTEM			
Fan and Fan Belt	62	62	62
Radiator	59	59	59
Thermostat	60	60	60
Water Pump	61	61	61
DIESEL FUEL SYSTEM			
Filters and Bleeding	47	47	47
Fuel Feed Pump	49	49	49
Fuel Injection Pump	51	51	51
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DIFFERENTIAL			
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ELECTRICAL SYSTEM			
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Starter Motor	66	66	66
ENGINE			
Assembly, R&R	25	25	25
Camshaft, Bearings and Cam Followers	35	35	35
Compression Test	26	26	26
Connecting Rods and Bearings	40	40	40
Crankshaft and Bearings	41	41	41
Crankshaft Oil Seals	42	42	42
Cylinder Block and Sleeves	37	37	37
Cylinder Head	27	27	27
Flywheel	44	44	44
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Timing Gears	34	34	34
Valve Clearance Adjustment	28	28	28
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Valve Springs	30	30	30
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FRONT SYSTEM			
Axle Main Member	1	1	1
Steering Spindles and Bushings	3	3	3
Tie Rods and Toe-in	2	2	2
Wheel Hub and Bearings	4	4	4
FRONT WHEEL DRIVE			
Differential	11	11	11
Drive Shaft	12	12	12
Front Axle Carrier	6	6	6
Planetary Final Drive	9	9	9
Transfer Case	14	14	14
HYDRAULIC SYSTEM			
Hydraulic Housing	100	100	100
Hydraulic Lift Cylinder	107	107	107
Hydraulic Pump	98	98	98
Lubrication and Maintenance	93	93	93
Main Control Valve	102	102	102
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Remote Control Valve	108	108	108
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Power Steering Unit	19	19	19
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TRANSMISSION			
Remove and Reinstall	72	72	72
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This service manual provides specifications in both the Metric (SI) and U.S. Customary systems of measurement. The first specification is given in the measuring system used during manufacture, while the second specification (given in parenthesis) is the converted measurement. For instance, a specification of "0.28 mm (0.011 inch)" would indicate that the equipment was manufactured using the metric system of measurement and the U.S. equivalent of 0.28 mm is 0.011 inch.