

VALVES

	<u>GASOLINE</u>	<u>DIESEL</u>
Material		
Intake	Silcrome XB	Silcrome XB
Exhaust	21-4N	Silcrome XB
Valve Arrangement (Front To Rear)	E-I-I-E-E-I-I-E-E-I-I-E	E-I-I-E-E-I-I-E-E-I-I-E
Valve Length Overall		
Intake	5-3/64	5-61/64
Exhaust	5-5/64	5
Valve Stem Runout - Maximum	0.002	0.002
Valve Stem Diameter		
Intake		
Standard	0.373-0.372	0.373-0.372
Minimum	0.369	0.369
Exhaust		
Standard	0.372-0.371	0.372-0.371
Minimum	0.368	0.368
Valve Running Clearance In Guides		
Intake		
Standard	0.003-0.001	0.003-0.001
Maximum	0.005	0.005
Exhaust		
Standard	0.004-0.002	0.004-0.002
Maximum	0.007	0.007
Valve Face Angle	44-1/2°	44-1/2°
Valve Head Diameter		
Intake	1.390-1.397	1.244-1.237
Exhaust	1.251-1.258	1.120-1.110
Valve Timing		
Intake Opens	8° BTDC	8° BTDC
Intake Closes	30° ABDC	30° ABDC
Exhaust Opens	40° BBDC	40° BBDC
Exhaust Closes	10° ATDC	10° ATDC
Valve Lift		
Intake	0.3125	0.3125
Exhaust	0.281	0.281
Valve Port Diameter	Refer to Cylinder Head Specifications	
Maximum Valve Face Runout	0.002	0.002
Maximum Valve Seat Runout	0.002	0.002
Valve Margin - Minimum	1/64	1/64
Valve Clearance (Cold)		
Intake	0.009-0.011	0.009-0.011
Exhaust	0.015-0.017	0.019-0.021

VALVE GUIDES

	<u>GASOLINE</u>	<u>DIESEL</u>
Type	Straight	
Material	Cast iron alloy, Brinell hardness 220 Minimum	
Valve Guide Bore		
Standard	0.374-0.375	0.374-0.375
Maximum		
Intake	0.377	0.377
Exhaust	0.378	0.378

GASOLINE FUEL SYSTEM

GOVERNOR

Governor Shaft Front Bushing Inside Diameter	0.4395
Governor Shaft Diameter	0.4365-0.4360
Bumper Screw Spring	
Free Length	7/16-1/2
Pressure	20-22 lbs at 11/32
Number Of Coils	6
High No-Load Speed	2420
Governor Spring	
Number Of Coils	19
Free Length	3.15 ± .03
Maximum Load	45 lbs
Rate Per Inch	27 lbs ± 10%

CARBURETOR

Schebler Number	TSX 903
Venturi Diameter	1
Float Level (With Throttle Body Inverted)	
Above Machined Surface	9/32"
Above Gasket	1/4"
Adjustments	
Idle Speed	450 rpm
High Speed Load Mixture	2-1/2 turns open
Idle Speed Mixture	1-1/8 turns open

DIESEL FUEL SYSTEM

INJECTOR NOZZLES

Refer to 1600 Tractor Shop Manual

FUEL INJECTION PUMP (ROOSA MASTER)

Governor	
Idle Speed	650
High No-Load Speed	2420
Rated Speed	2200
Timing (Static)	2° ATDC
Distributor Rotor Diameter	0.920 nominal
Drive Shaft Tang Width	0.3105-0.3095
Drive Shaft Bushing	0.8755-0.8765
Governor Control Arm Fork Wear	0.003 maximum wear. Fork tip to back side when new: 0.216-0.226
Plunger Diameter	0.270
Basic Cam Dimension	1.900
Rotation	Clockwise from drive end

ELECTRICAL SYSTEM

VOLTAGE REGULATOR ASSEMBLY

Type	12 volt, two unit
Delco Remy Model Number	1119516
Field Relay	
Aid Gap	0.015
Point Opening	0.030
Closing Voltage Range	1.5-3.2
Voltage Regulator	
Air Gap	Initial--0.067 Final--adjust to obtain 0.05-0.4 volt differential between operation on upper and lower contacts
Point Opening	0.014
Temperature-Voltage Chart	

Temp. (°F.) 1/4" From Regulator Cover	65	85	105	125	145	165	185
Voltage Setting	13.9-	13.8-	13.7-	13.5-	13.4-	13.2-	13.1-
	15	14.8	14.6	14.4	14.2	14	13.9

DISTRIBUTOR

Point Gap	0.025
Cam Angle	35-38°
Breaker Point Spring Tension (Gauge At Inner End Of Contact)	17-21 oz.
Firing Order	1-5-3-6-2-4
Shaft Rotation (Top View)	Clockwise
Distributor RPM	1/2 engine rpm
Advance Characteristics	
Centrifugal Advance	
Distributor RPM	Degrees Advance
225	0° - 1-1/2°
275	1/2° - 2-3/4°
325	2° - 4°
900	8° - 10°
1200	11° - 13°
Vacuum Advance	
Inches Of Hg	Degrees Advance
7	0
10	0 - 3
13	3 - 6
16	6 - 8
20	6 - 8
Shaft Bushing Inside Diameter	0.5000-0.5005

ALTERNATOR

Delco Remy Model Number	1100731
Rotation	Clockwise
Field Current - 80° F.	2.2-2.6 amps @ 12 volts
Field Resistance - 80° F.	4.6-5.5 ohms
Cold Output	
Approx. 2000 RPM*	21 amps @ 14 volts
Approx. 5000 RPM*	30 amps @ 14 volts
Rated Hot Output	32 amps
* Alternator-to-engine speed ratio -- approx. 2.15:1	

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CONDENSER

Capacity	0.21-0.25 mfd.
Starting Motor Drive End Bushing Running Clearance	0.002-0.005
Starting Motor Pinion Clearance (Diesel)	0.010-0.140

POWER TAKE-OFF

	SINGLE SPEED		DUAL SPEED	
	540	1000	540	1000
Operation	Independently Controlled		Independently Controlled	
Rotation (Viewed From Rear)	Clockwise		Clockwise	
Shaft Speed @ 2200 Engine RPM	541	1015	550	994
Shaft	1-3/8"		1-3/8"	
Size	1-3/8"		1-3/8"	
Spline Length	3	2	3	2
Number Of Splines	6	21	6	21
Clutch				
Type	Dry	Dry	Wet	Wet
Total Contact Area (Sq In)	86.7	86.7	90.6	90.6
Size (O. D. Of Facing)	7	7	5.43-5.45	5.43-5.45
Driven Plate Thickness	7/32	7/32	0.0620-0.0605	0.0620-0.0605
Adjustment (Pounds Pull Measured Below Grip)	43-55	43-55	48-55	48-55
Drive Plate Thickness	0.195-0.185	0.195-0.185	0.087-0.081	0.087-0.081
Driven Plate Cone	0.009	0.009	0.003-0.008	0.003-0.008

TRANSMISSION, BRAKES AND DIFFERENTIAL

Bearing Adjustment	
Input Shaft	5 in. lb. preload (above oil seal drag) to 0.001 end play
Countershaft	0.001-0.003 in. end play
Bevel Pinion Shaft	8-13 in. lb. preload (above oil seal drag)
Differential	0.001-0.003 in. end play
Bevel Pinion And Bevel Drive Gear Backlash	As marked on bevel gear
Torque Values	
Countershaft Front And Rear Nuts	150 ft. lbs. minimum
Bevel Drive Gear Bolt Nut (Oiled)	85-90 ft. lbs.
Differential Spider Hole	0.513-0.511 ream
Reverse Idler Shaft Diameter	1.2485-1.2480
Reverse Idler Gear Bushing Inside Diameter	1.253-1.252

HYDRA-POWER DRIVE

Refer To 1600 Tractor Shop Manual Except As Follows:

Output Shaft Nut Torque	200 foot pounds
Output Shaft Bearing Adjustment	0.001 in. end play to 5 in. lb. preload (above oil seal drag)

HYDRAULIC SYSTEM

	HYDRA-ELECTRIC AND HYDRAULIC DRAFT CONTROL UNIT	DEPTH STOP HYDRAULIC UNIT
Hydraulic Pump		
Capacity At 2200 RPM	15.5 gpm	18.5 gpm
Capacity Available To System With Flow Divider	10.5 gpm	13.5-14 gpm
Pressure Relief Valve Setting	2000-2100 psi	2050-2150 psi
Flow Divider		
Capacity	4.5 to 5 gpm	4.5 to 5 gpm
Relief Valve Setting	1500 psi \pm 50 psi	1500 psi \pm 50 psi
Control Valve Detent Relief Pressure		1800-2000 psi
Control Valve Thermal Relief Pressure	4400 to 5100 psi	4500 psi \pm 300 psi
Diameter Of Cylinder	3-1/2"	3-1/2"
Length Of Piston Stroke	6"	8"
Extension Or Lifting Time At 2200 RPM	1.5 sec.	1.5 sec.
Recommended Lifting Capacity	3" - 11,600 4" - 20,000	16,150 lb.
Capacity At Rocker Shaft	6600 ft. lbs. torque	
Cylinder Safety Valve Setting	2300 to 2500 psi	
Torque Values		
Pump Back Plate Cap Screws	23-26 ft. lbs.	
Pump Manifold Cap Screws	14-16 ft. lbs.	
Oil Filter Body	150 ft. lbs. minimum	
Breather Cap Screw	Tighten until sheet metal cap begins to yield	
Cylinder Safety Valve Seat	75-90 ft. lbs.	
Cone Head Cap Screws (Lower Link Support)	15-16 ft. lbs.	
Control Valve Cap Screws		30-35 ft. lbs.
Control Valve Detent Retainer		5 ft. lbs.
Cylinder Lock Nut		300-330 ft. lbs.
Cylinder Head Cap Screws		25-30 ft. lbs.

ENGINE CLUTCH

Refer To 1600 Tractor Shop Manual

REAR AXLES

Rear Axle Bearing Preload (Including Oil Seal Drag) 84-108 in. lbs.
Pull At Teeth Of Bull Gear For Correct Preload Adjustment (Including Oil Seal Drag) 9-12 lbs.

POWER STEERING

Refer To 1600 Tractor Shop Manual

REVERSE-O-TORC DRIVE

Refer To 770 Shop Manual

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