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MANUAL PREVIEW

Char-Lynn

Service, Parts, &
Operator's Manual
Hydraulic Pumps, Valves
& Power Steering Kits

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ORBIT® HYDRAULICS FOR THE FARM

Index to Char-Lynn Hydraulics

Sales Literature

Orbit Motors Page 3

Hose Coupler 8

Universal Oil Filter 9

Power Steering Kits 10

Hydraulic Valves 16

Live Hydraulic Pump - Front Mounted 17

E-600 Hi-Lo Pac 18

Hi-Lo Pac PTO Hydraulic Pump 20

Hydraulic Cylinders 21

Power Steering Units Application

General Installation, Operation, & Maintenance 25

Allis Chalmers WC, WD, & WD45 33

IHC 400D, 450D, MD, Super MD, & Super MTA Diesel 37

IHC H, Super H - w/o Live Hydraulic 43

IHC Super M, Super MTA Gas & LP; w/Live Hydraulics 47

IHC Super H - w/Live Hydraulics 51

IHC 300 & 350 w/6-volt Electrical System 55

IHC McCormick Deering W-6 & Super W-6 59

IHC WD-6 & Super WD-6 63

IHC 400, 450, Super M, Super MTA; Gas & LP w/o Live Hydraulics 67

IHC McCormick Deering WD-9 & Super WD-9 77

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Power Steering Units Application Cont.

John Deere A, G, 60, & 70 Page 83

John Deere R 91

Massey Harris 44 Diesel..... 95

Massey Harris 55 99

Minneapolis Moline UBE & UBN 105

Oliver Super 77, 770, Super 88, 880 Row Crop, 77, & 88 109

Parts For Power Steering Units

Includes Pump, Mounting Kits, Belts, etc for Various Tractors 116

Service Bulletins and Technical Bulletins

Service Bulletin 18, 19, & 20 159

Technical Service Section Power Steering Units..... 165

Orbit Motor Service and Parts Section..... 219

E-600 HI-LO-PAC; Installation-SVC-OPT-PTS 233

P-400 Hydraulic Pump; Installation-PTS-OPT-SVC 263

Hydraulic Valve V-960, V-1060, V-1100; Installation-PTS-OPT 309

Hydraulic Cylinders C-102; Installation-PTS-OPT..... 325

Hydraulic Cylinders, Stroke Control C-133; Installation-PTS-OPT..... 329

Hose Coupler H-730..... 333

Universal Hydraulic Filter F-240 335

Universal Hydraulic Supply Tank R-244..... 339

Parts Listings..... 341

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MANUAL PREVIEW

JENSALES®

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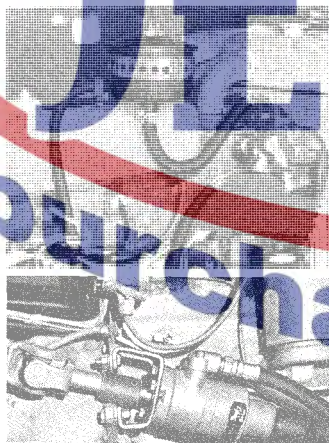
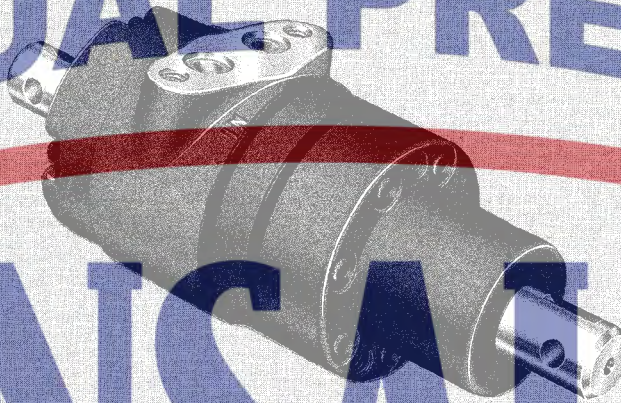
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POWER STEERING MOUNTING KITS

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OLIVER

MODEL	DESCRIPTION	Order Kit No.	Kit List Price [®]
88	Row crop and adjustable wide front gasoline powered tractors. (Pump furnished in kit). NOTE: In addition to kit, a special spacer is required to mount unit to this tractor. Order No. 21063, \$2.95.	K1-431-C	\$89.95
77	Row crop and adjustable wide front gasoline powered tractors. (Pump furnished in kit). NOTE: In addition to kit, a special spacer is required to mount unit to this tractor. Order No. 21063, \$2.95.	K1-431-C	\$89.95
Super 88	Row crop and adjustable wide front gasoline powered tractors. (Pump furnished in kit).	K1-431-C	\$89.95
880	Row crop and adjustable wide front gasoline powered tractors. (Pump furnished in kit).	K1-431-C	\$89.95
Super 77	Row crop and adjustable wide front gasoline powered tractors. (Pump furnished in kit).	K1-431-C	\$89.95
770	Row crop and adjustable wide front gasoline powered tractors. (Pump furnished in kit).	K1-431-C	\$89.95



MINNEAPOLIS MOLINE

UBE	Nos. 05,900,001 to 05,901,368 for gasoline tractors. Pump furnished in kit.	K-422-G	\$89.95
UBN	Nos. 06,000,001 to 06,000,232 for gasoline tractors. Pump furnished in kit.	K-422-G	\$89.95
UBU	Nos. 05,800,001 to 05,805,077 for gasoline tractors. Pump furnished in kit.	K-422-G	\$89.95
UTU	For gasoline tractors. Pump furnished in kit.	K1-422-H	\$89.95
UTN	For gasoline tractors. Pump furnished in kit.	K1-422-H	\$89.95
UTE	For gasoline tractors. Pump furnished in kit.	K1-422-H	\$89.95

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**POWER
STEERING**

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TABLE OF CONTENTS

SUBJECT	PAGE
INTRODUCTION	3
TRACTOR INSPECTION	3
HYDRAULIC SYSTEM	3
INSTALLATION	4
ALIGNMENT	4
PRE-OPERATION	5
OPERATIONAL TESTS	6
SPEED and FLOW DELIVERY	7
OPERATING TEMPERATURES	7

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5. Assemble the pump pulley (Part No. 20833) on the pump shaft, using the 5/16 special flat washer (Part No. 641), a 5/16 spring lock washer (Part No. 14070) and a 5/16-18NCx $\frac{7}{8}$ hex cap screw (Part No. 480).

6. Install the bracket support (Part No. 815) over the manifold bolt and the thermostat housing bolt, using two 7/16 SAE washers under each bolt hole in the bracket. Replace the thermostat housing bolt with a 3/8-16NCx1-1/4 hex cap screw (Part No. 14066) from the kit.

7. Remove the top bolt from the water pump housing on the manifold side of the tractor and install the pump, bracket and pulley assembly. Replace the cap screw removed from the water pump housing with hex cap screw (Part No. 89). Use the 5/16-18NCx1 machine bolts and nuts (Part No. 14071), 5/16 SAE washers (Part No. 94) and 5/16 spring lock washers (Part No. 14070) to fasten the pump bracket to bracket support.

8. Place generator and pump belt (Part No. 21010) over pump pulley. This is best accomplished by loosening the generator belt tightener pulley. When the belt is in place, tighten both belts by adjusting the belt tightener.

STEERING UNIT INSTALLATION:

1. Measure to a point 9-1/4" forward from the front center line of the instrument panel mounting plate-on the center line of the shaft. Cut off the steering shaft at this point. Using sand paper, remove paint from the shaft 1-1/2" toward the radiator.
2. Disconnect the universal joint. Loosen the two collars on the steering post and slide the steering wheel and shaft to the rear. Remove the shaft stub from the universal joint.

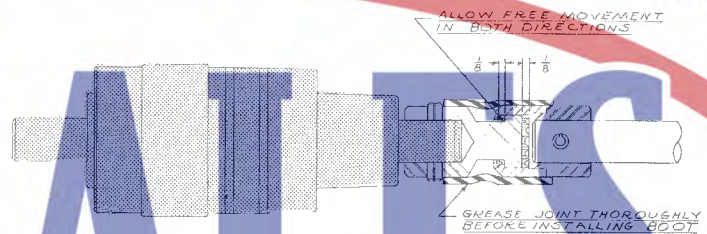
3. Remove the casting from the shaft bearing support by removing the three bolts.

4. Drill the 11/32" diameter holes for mounting the steering unit through the shaft bearing support and the instrument bracket, using template (Part No. 99) furnished with the kit.

5. Drain as much lubricant as possible out of the steering worm and sector housing. Remove the worm shaft retainer and remove the steering worm shaft and bearing from the steering gear housing.

6. Mount the steering unit on the shaft bearing support with spacer (Part No. 91) between unit and support. Use the 5/16 NCx1" screw (Part No. 40) in the top and two 5/16x1-1/4" screws (Part No. 92) in the bottom.

7. Replace the worm shaft temporarily to check alignment of the steering unit and shaft. If the shaft and steering unit are aligned within 1/8" at the most, use shims to align it properly. Slip the worm shaft out again.



8. Fill the two-piece end of the coupling (Part No. 634) with universal joint grease so when the shaft is pushed into the sleeve the grease will be forced into the splined joint. Place the shaft coupling (Part No. 634) on the power end of the steering unit, using one 5/16x1-1/2 rolled pin (part No. 76). Be sure to use the drilled-through hole end of the coupling.

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16. Remove shaft bearing retainer snap ring from front hub of pump body. (Figure 16.) for 116 pump only.

18. Do not remove inner bushing as it is not serviceable on 116 pump. Do not remove either bushing on 446 pump as they are not serviceable.

19. Remove key from shaft.

20. Remove snap ring from shaft on 116 pump.

21. Remove outer ball bearing by pressing from the pump shaft. Do not remove unless it is to be replaced as it is impossible to remove it without damage.

PUMP ASSEMBLY

Carefully clean all parts except O-rings which are to be replaced and should not be immersed in cleaning solvent. Lubricate all O-rings and drive shaft seals with vaseline. Be sure to keep parts clean during re-assembly.

1. Press large bearing over splined end of shaft using a tool which presses on the inner race only on 116 pump only.

2. Install snap ring on shaft on 116 pump only.

3. Tap key into shaft keyway. Support the shaft on the opposite side of the key.

4. Install drive shaft and bearing assembly into pump body on 116 pump (or shaft only on 446 pump). If difficulty is encountered, press into body with a tool that presses on outer race only (for 116 pump only).

5. Install snap ring retainer.

6. Install new shaft seal in body over the shaft using a tube 1 21/32" in diameter for 116 pump and 1 9/32" in diameter for 446 pump to apply pressure to outer edge of seal during installation. Install seal with word 'Outside' toward front of pump. Grease the seal with vaseline before installation on both the O.D. and between the lips.

7. Install new O-ring in groove of pump body.

8. Install dowel pins in pump body. Tap lightly if necessary.

9. Install pump ring on dowel pins. Position correctly according to scribed marks. (Figure 12.)

NOTE: Arrow on outer edge of pump ring points in direction of pump rotation.

10. Install rotor, which must be free on splines, on pump body over splined end of drive shaft. (Figure 14.)

NOTE: Assemble rotor with countersunk side toward shaft.

10A. On 446 pump install snap ring (Part No. 449).

FIGURE 16

17. Remove drive shaft with bearing by lightly tapping on splined end. (Figure 17.) Use same method for 446 pump with bushing in front instead of ball bearing.

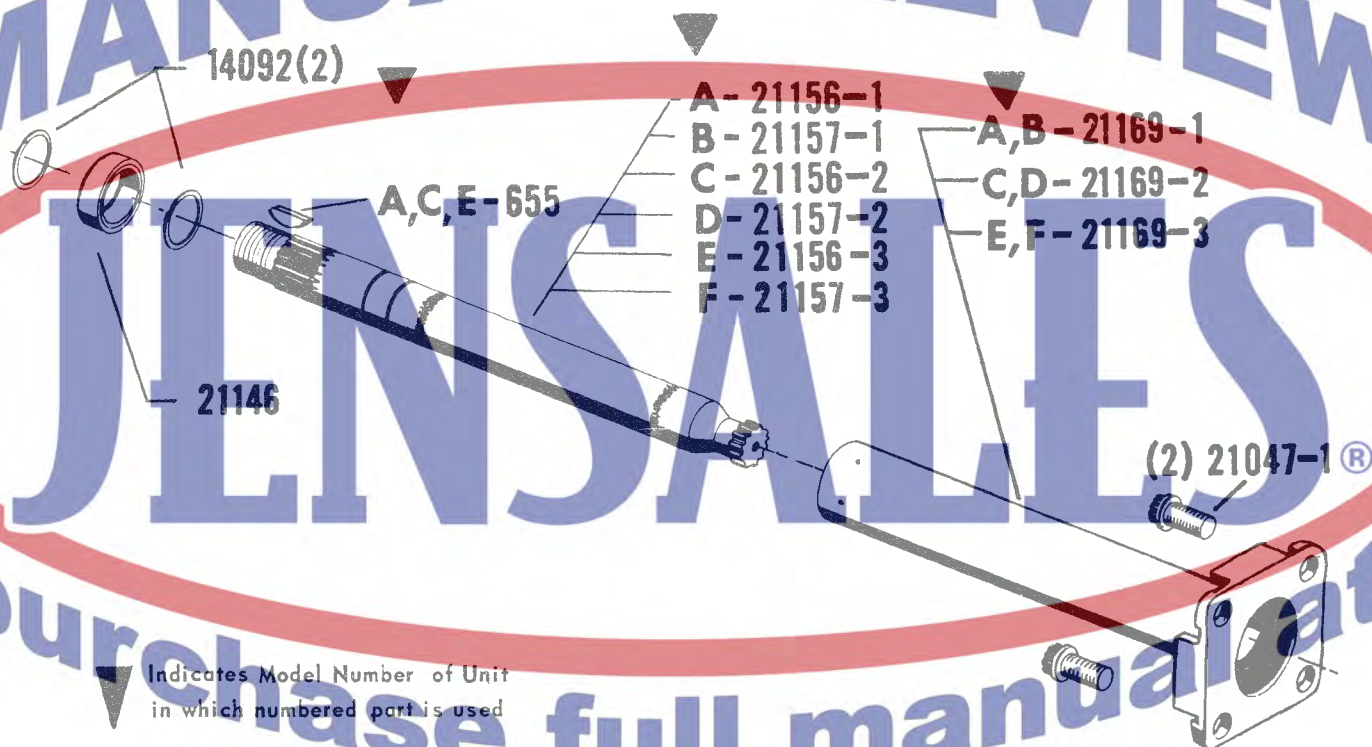
FIGURE 17

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Model SCX-2
ORBITROL

**COLUMN
PARTS LIST**

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Part No.	Description	Quantity Required in Model No.						List Price
		SCA	SCB	SCC	SCD	SCE	SCF	
655	Key, Woodruff, 7/8 Dia. 3/16 Wide	1		1		1		.15
14092	Snap Ring, 7/8 Shaft	2	2	2	2	2	2	.15
21047-1	Screw, Cap, 12 pt Drive 3/8-16 NC x 3/4	2	2	2	2	2	2	.35
21146	Bearing Assembly	1	1	1	1	1	1	4.95
21156-1	Shaft Assembly, Steering	1						9.45
21156-2	Shaft Assembly, Steering			1				11.75
21156-3	Shaft Assembly, Steering					1		13.65
21157-1	Shaft Assembly, Steering		1					11.25
21157-2	Shaft Assembly, Steering				1			13.35
21157-3	Shaft Assembly, Steering						1	14.80
21169-1	Tube and Flange Assembly	1	1					11.45
21169-2	Tube and Flange Assembly			1	1			13.35
21169-3	Tube and Flange Assembly					1	1	18.05

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