An Oshkosh Corporation Company

Service and Maintenance Manual

Model
600AJ

PVC 2007

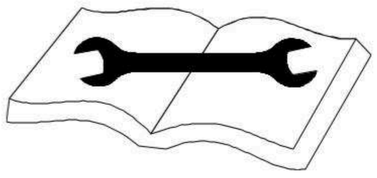
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Table 1-6. Premium Hydraulic Fluid (VG 32) Specs

Inspection Data	Recommended SHELL TELLUS S2 VX 32	Optional MOBIL DTE 10 EXCEL 32
ISO Viscosity Grade	32	32
Specific Gravity	0.854	0.847
Flash Point, °F (°C)	419 (215)	482 (250)
Pour Point, °F (°C)	-38.2 (-39)	-65.2 (-54)
Base Oil Type	HV	HV
Viscosity		
Brookfield, cP at -22 °F (-30°C)	-	3360
Brookfield, cP at -4 °F (-20 °C)	-	1090
Viscosity, cST at 104 °F (40 °C)	33.01	32.76
Viscosity, cST at 212 °F (100 °C)	6.26	6.58
Viscosity Index	142	161

Table 1-7. Quintolubric Fire RES Hydraulic Fluid Specs

Inspection Data	Required QUINTOLUBRIC 888-46 Specs
ISO Viscosity Grade	46
Density at 15°C, g/cm^3	0.92
Flash Point, °F (°C)	572 (300)
Pour Point, °F (°C)	<-22 (<-30)
Base Oil Type	POLYOL ESTER
	HEES
	HFDU
Auto Ignition Temperature, °F (°C)	>842 (>450)
Viscosity	
Brookfield, cST at 32 °F (0 °C)	320
Brookfield, cST at 68 °F (20 °C)	109
Viscosity, cST at 104 °F (40 °C)	47.5
Viscosity, cST at 212 °F (100 °C)	9.5
Viscosity Index	190

Table 1-8. Biodegradable Synthetic Hydraulic Fluid (VG 46) Specs

Inspection Data	Recommended SHELL NATURELLE HF-E46	Optional MOBIL EAL ENVIRONSYN H46
ISO Viscosity Grade	46	46
Specific Gravity	0.921	0.874
Flash Point, °F (°C)	611.6 (322)	500 (260)
Pour Point, °F (°C)	-43.6 (-42)	-49 (-45)
Base Oil Type	POLYOL ESTER	FATTY ACID ESTER
	HEES	-
	HFDU	-
Auto Ignition Temperature, °F (°C)	>752 (>400)	-
Biodegradability (%28 Days)	76%	>60%
Viscosity		
Viscosity, cST at 104 °F (40 °C)	46.20	43.42
Viscosity, cST at 212 °F (100 °C)	9.41	7.69
Viscosity Index	193	147

Table 1-9. Premium Hydraulic Fluid (All Weather) Spec

Inspection Data	Recommended SHELL TELLUS S4 VX 32		Optional MOBIL UNIVIS HVI 26	
	UNSHEARED	SHEARED	UNSHEARED	SHEARED
ISO Viscosity Grade	32		26	
Specific Gravity	0.866	-	0.89	-
Flash Point, °F (°C)	>212 (>100)		>201.2 (>94)	
Pour Point, °F (°C)	-76 (-60)		-76 (-60)	
Base Oil Type	HV		HV	
Viscosity				
Viscosity, cST at 104 °F (40 °C)	31.41	21.64	25.78	15.28
*Relative Viscosity Loss at 104 °F (40 °C)	31.1%		40.7%	
Viscosity, cST at 212 °F (100 °C)	9.17	6.10	8.74	5.02
*Relative Viscosity Loss at 212 °F (100 °C)	33.5%		42.6%	
Viscosity Index	296	258	352	304
*Fluid is subjected to 20 hours in the CECL-45-A-99 test to be mechanically degraded.				

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Troubleshooting

Table 4-1. Troubleshooting

Problem	Cause	Solution
1. Shaft rotates slowly or not at all	a. Insufficient torque output	a. Verify correct operating pressure. Do not exceed OEM's pressure specifications. Load may be above maximum capacity of the actuator.
	b. Low rate of fluid flow	b. Inspect ports for obstructions and hydraulic lines for restrictions and leaks.
	c. Control or counterbalance valve has internal leak	c. Disconnect hydraulic lines and bypass valve. Leave valve ports open and operate actuator through housing ports (do not exceed OEM's operating pressure). Valve must be replaced if a steady flow of fluid is seen coming from valve ports.
	d. Piston and/or shaft seal leak	d. Remove plug and housing's valve ports. Operate actuator through housing ports. Conduct internal leakage test.
	e. Corrosion build-up on the thrust surfaces	e. Rebuild actuator. Remove all rust then polish. Replacement parts may be needed.
	f. Swollen seals and composite bearings caused by incompatible hydraulic fluid	f. Rebuild actuator. Use fluid compatible with all seals and bearings.
2. Operation is erratic or not responsive	a. Air in actuator	a. Purge air from actuator. See bleeding procedures.
3. Shaft will not fully rotate	a. Twisted or chipped gear teeth	a. Check for gear binding. Actuator may not be able to be rebuilt and may need to be replaced. Damage could be a result of overload or shock.
	b. Port fittings are obstructing the piston	b. Check thread length of port fittings. Fittings should during stroke not reach inside housing bore.
4. Selected position cannot be maintained	a. Control or counterbalance valve has internal leak	a. Disconnect hydraulic lines and bypass valve. Leave valve ports open and operate actuator through housing ports (do not exceed OEM's operating pressure). Valve must be replaced if a steady flow of fluid is seen coming from valve ports.
	b. Piston and/or shaft seal leak	b. Remove plug and housing's valve ports. Operate actuator through housing ports. Conduct internal leakage test.
	c. Air in actuator	c. Purge air from actuator. See bleeding procedures

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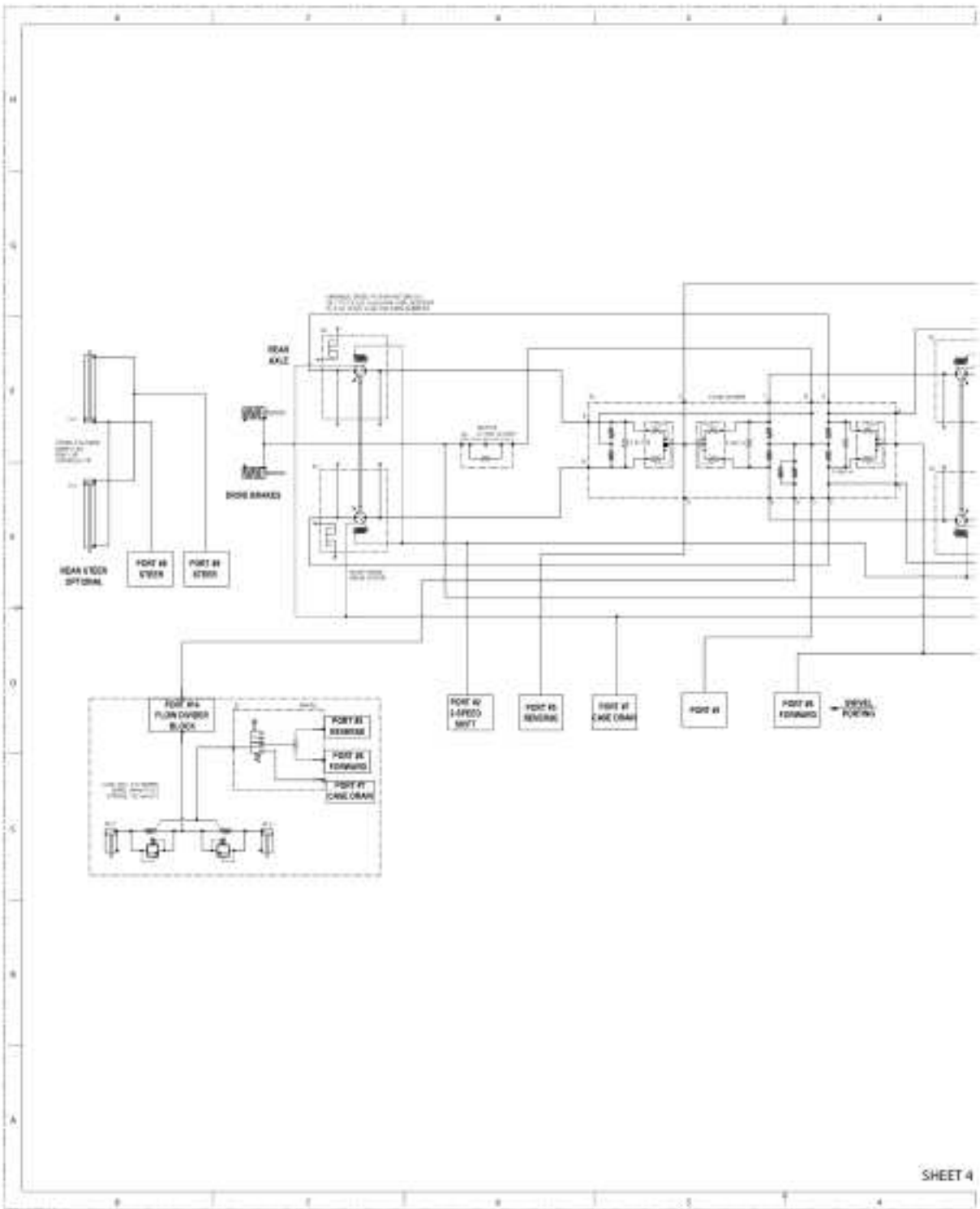


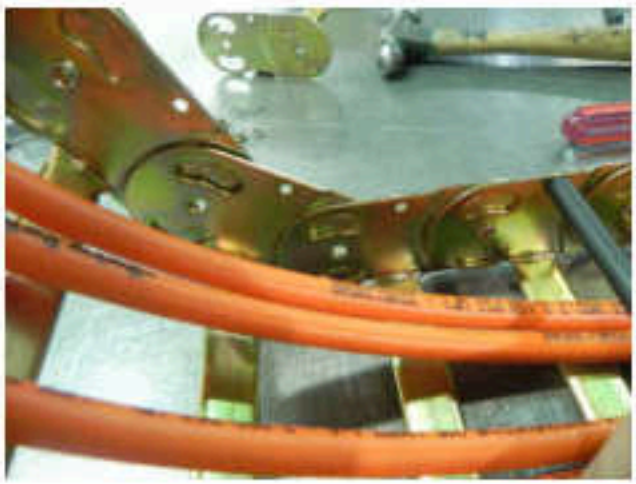
Figure 5-203. 4-Wheel Drive (4WD) Hydraulic Schematic 1 of 2

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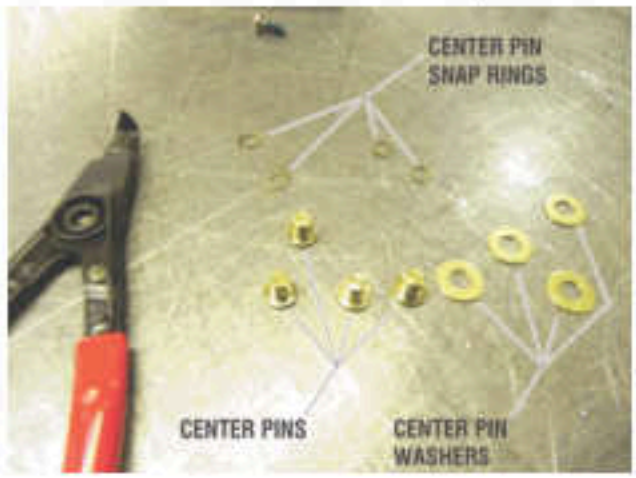
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4. Pull moving end over track so new connection is positioned in curve of powertrack. Round half-shears will rotate into cut-outs.





5. Parts shown below connect new link to powertrack.



6. Push pin through center hole. Slide washer on pin.





7. Install snap ring in groove on pin. Repeat pin installation steps for all center holes with rivets removed.



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SECTION 5. BASIC HYDRAULICS INFORMATION & SCHEMATICS

5.1 LUBRICATING O-RINGS IN THE HYDRAULIC SYSTEM

When assembling connectors in the hydraulic that use o-ring fittings, it is necessary to lubricate all fittings with hydraulic oil prior to assembly. To lubricate the fittings, use one of the following procedures.

NOTE: *All O-ring fittings must be pre-lubricated with hydraulic oil prior to assembly.*

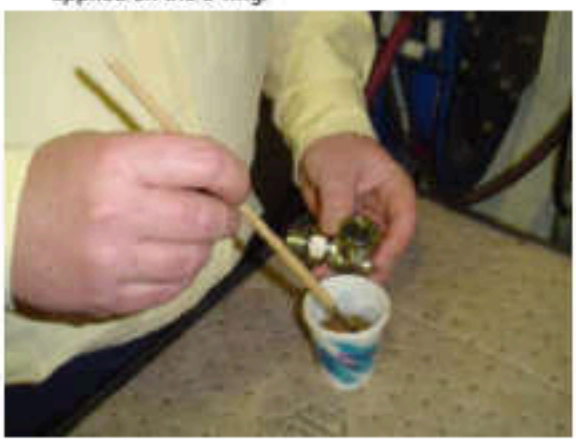
Cup and Brush

The following is needed to correctly oil the o-ring in this manner:

- Small container for hydraulic oil
- Small paint brush



1. Hold the fitting in one hand while using the brush with the other hand to dip into the container. Remove excess hydraulic oil from the brush so an even film of oil is applied on the o-ring.



2. Holding the fitting over the hydraulic oil container, brush an even film of oil around the entire o-ring in the fitting, making sure the entire o-ring is completely saturated.



3. Turn the o-ring on the other side of the fitting and repeat the previous step, ensuring the entire o-ring is coated with hydraulic oil.



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