Oklahoma CTE

# Hydraulics (2012)

Adopted 2012

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| **General System Operation** | 1. Identify system type (closed and open) and verify proper operation.<br>2. Read and interpret system diagrams and schematics.<br>3. Perform system temperature, pressure, flow, and cycle time tests; determine needed action.<br>4. Verify placement of equipment/component safety labels and placards; determine needed action. |
| **Pumps** | 1. Identify system fluid type.<br>2. Identify causes of pump failure, unusual pump noises, temperature, flow, and leakage problems; determine needed action.<br>3. Determine pump type, rotation, and drive system.<br>4. Remove and install pump; prime and/or bleed system.<br>5. Inspect pump inlet for restrictions and leaks; determine needed action.<br>6. Inspect pump outlet for restrictions and leaks; determine needed action. |
| **Filtration/Reservoirs (Tanks)** | 1. Identify type of filtration system; verify filter application and flow direction.<br>2. Service filters and breathers.<br>3. Identify causes of system contamination; determine needed action.<br>4. Take a hydraulic oil sample.<br>5. Check reservoir fluid level and condition; determine needed action.<br>6. Inspect and repair or replace reservoir, sight glass, vents, caps, mounts, valves, screens, supply and return lines. |
| **Hoses, Fittings, and Connections** | 1. Diagnose causes of component leakage, damage, and restriction; determine needed action. |

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| | 2. Inspect hoses and connections (length, size, routing, bend radii, and protection); repair or replace as needed. |
| | 3. Assemble hoses, tubes, connectors, and fittings in accordance with manufacturers' specifications; use proper procedures to avoid contamination. |
| | 4. Inspect and replace fitting seals and sealants. |
| **Control Valves** | 1. Pressure test system safety relief valve; determine needed action. |
| | 2. Perform control valve operating pressure and flow tests; determine needed action. |
| | 3. Inspect, test, and adjust valve controls (electrical/electronic, mechanical, and pneumatic). |
| | 4. Identify causes of control valve leakage problems (internal/external); determine needed action. |
| | 5. Inspect pilot control valve linkages, cables, and PTO controls; adjust, repair, or replace as needed. |
| **Actuators** | 1. Identify actuator type (single/double acting, multi-stage/telescopic, and motors). |
| | 2. Identify the cause of seal failure; determine needed repairs. |
| | 3. Identify the cause of incorrect actuator movement and leakage (internal and external); determine needed repairs. |
| | 4. Inspect actuator mounting, frame components, and hardware for looseness, cracks, and damage; determine needed action. |
| | 5. Remove, repair, and/or replace actuators in accordance with manufacturers' recommended procedures. |
| | 6. Inspect actuators for dents, damage, and leakage; determine needed action. |
| | 7. Purge and/or bleed system in accordance with manufacturers' recommended procedures. |