Industrial Parts Washer Solvent Replacement And Sludge Removal

1.0 Maintenance Objective & Frequency

The objective of this procedure is to replace contaminated solvent and remove accumulated sludge from the industrial parts washer. This prevents pump cavitation, maintains cleaning effectiveness, and reduces fire risk from flammable solvent buildup. This PM is to be performed every 500 operating hours or quarterly, whichever comes first.

2.0 Lockout/Tagout (LOTO) & Safety

- Electrical Isolation: Disconnect the main power supply to the parts washer at the disconnect switch and apply a personal lock and tag.
- Pneumatic Isolation: Close the compressed air supply valve to the washer and bleed any residual pressure from the system.
- Mandatory PPE: Wear chemical-resistant gloves, safety goggles, and a face shield. Use a respirator if solvent vapors are present. Ensure the area is well-ventilated.

3.0 Required Tools, Parts & Lubricants

- Appropriate replacement solvent (e.g., mineral spirits, aqueous cleaner) as specified by OEM
- Sludge removal pump or wet/dry vacuum rated for flammable liquids
- Approved waste solvent container (55-gallon drum or equivalent)
- Screwdrivers (flathead and Phillips)
- Adjustable wrench or socket set
- Scraper or putty knife
- Clean rags or absorbent pads
- Funnel
- Replacement gaskets or seals (if applicable)

4.0 Step-by-Step Maintenance Procedure

1. Perform LOTO as per Section 2.0. Verify zero energy state by attempting to start the washer.
2. Remove the drain plug or open the drain valve at the bottom of the solvent tank. Drain the old solvent into an approved waste container. Allow the tank to drain completely.
3. Remove the access cover or lid to the solvent tank. Use a scraper or putty knife to remove heavy sludge buildup from the bottom and sides of the tank. Place sludge into a waste container.
4. Use a sludge removal pump or wet/dry vacuum to extract remaining sludge and debris from the tank. Pay special attention to the pump intake area to prevent future blockages.

5. Inspect the tank interior for corrosion, cracks, or damage. If damage is found, consult OEM for repair or replacement before proceeding.

6. Clean the drain plug or valve threads and apply a new gasket or sealant if required. Reinstall the drain plug or close the valve. Torque to OEM specification (typically 20-30 Nm).

7. Remove and clean the solvent filter or strainer located at the pump inlet. Inspect for damage and replace if necessary.

8. Using a funnel, refill the tank with fresh solvent to the OEM-recommended level. Do not overfill.

9. Reinstall the access cover or lid, ensuring a proper seal. Tighten all fasteners evenly.

10. Remove LOTO devices. Restore electrical and pneumatic power to the washer.

5.0 Verification & Return to Service

1. Turn on the parts washer and run a test cycle for 2-3 minutes. Listen for unusual pump noises and check for leaks at the drain plug, cover, and hose connections.

2. Verify that solvent is circulating properly and that the spray nozzles are delivering adequate flow. Adjust nozzle direction if needed.

3. Check solvent level and top off if necessary after the system has stabilized.

4. Dispose of waste solvent and sludge in accordance with local environmental regulations.

5. Document the PM completion in ServiceGrid, including solvent type and quantity used, and any observations of component condition.