

Subject: Shutters and Control Installation and Maintenance Procedures



For a maximum trouble-free life of your Shutter and Controls, we recommend the following installation and maintenance procedures.

1. The normal installation of the shutter is over the entire radiator. Some shutters are used to prevent the environment from entering cab/hood assemblies. For the shutter to be effective, all openings that allow air to pass through the radiator/cab/hood without first passing through the shutter must be sealed.
2. Vane travel should be free of interference. Do not allow shutter vanes to contact any part of the vehicle.
3. Keep all moving parts free, clean and lubricated*.
4. Check and tighten hardware as required.
5. Use approved lubricant* on all pivot points of vanes, control bar, and cylinder linkage at least every 20,000 miles or annually whichever ever comes first. When preparing unit for or after extended vehicle storage (one month or more) or in corrosive environments, pivot points and moving parts must be lubricated to provide adequate protection. In extremely dusty areas clean and lubricate more often.
6. Adjust cylinder linkage yearly to take up lost motion. CAUTION: For heavy duty shutters (i.e. 5" vanes) make sure there is no travel left in the piston cylinder rod when the vanes are tightly closed. This will eliminate any possible damage to the shutter due to excessive piston stroke.
7. On standard shutters, vane and seal assemblies should be replaced when they become worn and no longer provide a good seal. For each vane, order repair kit part no. 1033-08255-01 (narrow vane: 1.5 wide) or part no. 1033-08255-02 (wide vane: 1.94 wide). For heavy duty shutters, order $\frac{1}{4} \times 1$ " felt part no. 2031-00170-01. (purchased by the ft.) Felt seal must be trimmed $\frac{1}{8}$ " shorter than vane. Any protrusion of vane seal beyond vane could cause binding between vane and angles, not allowing shutter to fully close.
8. Periodically check anti-rattle wire on heavy duty shutters. Loose or broken anti-rattle wires allow excessive wear of vane rods and bushings due to vehicle vibration. Replace immediately. Order part no. 2057-00296-01. (purchased by the ft.)
9. Air/ hydraulic cylinders (1 $\frac{3}{4}$ " dia.) – check cylinder periodically for wear. Be sure air/oil pressure is applied to cylinder. A worn cylinder will cause an audible air or visual oil leak. Repair kits are available.
10. Air operated cylinders (1 $\frac{1}{4}$ " dia.) – If cylinder appears to leak, contact your distributor for a replacement part.

*Note: Approved lubricants; WD-40 or equivalent; #10 Silicone spray on rubber/vinyl components



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