

## Procedure 3003: Inspecting Dixon Cam and Groove Couplings

effective 02/08

### Notes

- 1. These procedures provide guidelines for determining the serviceability of used Dixon Cam and Groove couplings.
- 2. Distributors or end users must not alter Dixon products. Alterations include, but are not limited to changing the shape or number of nodes or serrations, buffing, grinding, filing, drilling, cutting or welding any surface. If any such modifications are discovered in the inspection process, the product must be made inoperable and discarded.
- 3. During the inspection process, protective eyewear and rubber gloves should be worn at all times.
- 4. Assemblies made of previously used Dixon Cam and Groove couplings must also be pressure tested. Test the assembly using Procedures 4000: General Hydrostatic Testing Information, 4001: Hydrostatic Test Procedure, and 4002: Test Pressures for Boss-Lock Cam and Groove Couplings. The distributor is responsible for maintaining test records.

### Inspecting Couplers (styles B, C, and D)

- 1. Examine the gasket area for nicks, gouges, scratches, dents, corrosion, or pitting. If any of these conditions are present, discard the coupler.
- 2. Ensure that the coupler has a new gasket. The new gasket should be compatible with the material that is to be conveyed. For rubber gaskets supplied by Dixon, the color and number of stripes on the side of the gasket identify the type. See Cam and Groove Gaskets in the current DPL (Dixon Price List). If there is any question about which gasket to install, call Dixon at 800-355-1991 for a recommendation.
- 3. Examine the lobes of the cam arms for dents or excessive wear. If either of these conditions is present on either cam arm, replace both cam arms.
- 4. Check cam arms for free movement up and down as well as side to side. If either cam arm does not move freely, replace both cam arms.
- 5. Compare the cam arms to a new one to see if either of the existing ones are bent. If one or both are, replace both cam arms. If the cam arms are to be replaced, the pins must be replaced as well. Replace components with the same size and style that was removed.
- 6. Check the coupler for roundness by inserting a new adapter. If the adapter does not move freely in and out of the coupler, discard the coupler.
- 7. With the coupler in a vertical (up) position, insert the adapter until it contacts the gasket. In this situation, the cam arms should be at a approximately 90° angle to the coupler body. If the cam arms are less than 90°, replace both cam arms and pins then re-inspect. If the cam arms are still not at 90°, discard coupler.
- 8. For Boss-Lock couplers, examine both safety clip lugs. If either lug is bent, broken or if the hole is closed, discard the coupler.

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- 9. Examine the other locking devices as follows:
  - a. *Pull ring safety clips*: Insert the clips on both cam arms into the hole in the lug. If either clip does not go through the hole, replace that pull ring safety clip.
  - b. *EZ Boss-Lock handles*: The locking device should activate immediately upon closure. Check this by closing the cam arms then pulling outward on the pull-rings. If one of the following conditions exist, replace existing arms:
    - 1) A cam arm opens because a camshaft is bent.
    - 2) Spring is bent, broken, or dysfunctional.
    - 3) The camshaft lever does not move freely when pulled down or return to its locked position freely when released.
    - 4) The cam arm is bent.
    - 5) Any other condition that renders the locking devices inoperable.

### **Adapters** (styles A, E, and F)

- 1. Examine the sealing surface for nicks, cuts, scratches, dents, or pitting. If any of these conditions are present, discard the adapter.
- 2. Examine the groove area for excessive wear or 'flat spots' (dents). If either of these conditions is present, discard the adapter.
- 3. Check the adapter for roundness by inserting it into a new coupler. If the adapter does not move freely in and out of the coupler, discard the adapter.

### **Hose Shanks** (styles C and E)

- 1. Examine the nodes or serrations for any cuts, scratches, gouges, or flat spots. If any of these conditions are present on any of the nodes or serrations, discard the coupling.
- 2. Examine the inside of the shank for pitting or corrosion. If either is present, discard the coupling.