

MANUFACTURED HOUSING INSTITUTE Transportation Resource Manual – Guideline 004

Manufactured Home Axle Recycling Guideline

1.00 INTRODUCTION

Recycled axle providers should comply with these guidelines.

1.1 RECEIVING INSPECTION

- 1.1.1 The axle assemblies should be visually inspected upon receipt. Inspection should consist of visual determination of structural defects. Such defects include, but are not limited to, bent axles, sheared axle/spring centering pins and bent or damaged weldments.
- 1.1.2 Those axles that do not pass visual inspection should be repaired, rejected or may be disassembled for usable parts.
- 1.1.3 Those axles that pass visual inspection should be processed in accordance with these guidelines.

1.2 DISASSEMBLY AND RECONDITIONING PROCEDURES

- 1.2.1 Disassembly. Disassemble hub grease cap, cotter pin, spindle nut and washer and hub/drum assembly.
- 1.2.2 Spindles. Spindles should be examined for scoring, wear and other defects.
- 1.2.3 Brakes. Brake retainer flange should be inspected for damage to pins, spring retainers and general alignment.
- 1.2.4 Brake Shoes and Linings. Brake shoes should be cleaned and checked for serviceability. Brake linings should be measured with a go/no go gauge and shall be greater than 2/32 inch in thickness. Shoes and linings that do not meet minimum acceptance criteria should be replaced with suitable parts.
- 1.2.5 Brake Drums. Brake drums should be inspected for:
 - .1 Hairline cracks and breaks;
 - .2 Smoothness and general appearance of brake surfaces; and
 - .3 Adequacy of lug bolts and threads.Drums deemed beyond reconditioning should not be used in axle assemblies but may be salvaged for usable parts only.
- 1.2.6 Brake Spring Assemblies. Spring assemblies should be visually inspected for defects. All defective parts should be replaced with suitable parts.

1.2.7 Bearings. Wheel bearings should be inspected for scores, looseness and general appearance. Acceptable bearings are then regreased.

1.3 REASSEMBLY AND TESTING

1.3.1 Upon completion of the above recondition procedures, all parts should be reassembled and hub assemblies rotated to insure bearings turn freely and drum and brake assemblies are in proper working order. A final check of brake magnets should be made by placing a 12 volt potential across the magnet to determine if the magnet is wired properly and operable and that it engages properly by stopping the rotating drum. A continuity test would not satisfy this requirement.

1.3.2 Anti-Corrosion. Prior to labeling, the entire assembly should be painted or otherwise coated to completely protect it from corrosion. Care should be taken to assure that the coating does not enter the brake assembly.

1.4 STRUCTURAL MODIFICATIONS

1.4.1 Every axle which is shortened or lengthened should be modified in accordance with welding procedures approved by an approved third party inspection agency and should be inspected to determine if the welds are in compliance with the approved weld procedures.

1.5 IDLER AXLES

1.5.1 Idler axles are those axles, which do not have operable braking assemblies and are processed in accordance with the above procedures, except those pertaining to wiring, brake magnets and brake reconditioning.

1.6 COMPLIANCE

1.6.1 Any axle assemblies that fail to comply with these guidelines should be rejected.

1.7 LABELING PROCEDURE

1.7.1 Axles that have been subjected to the above reconditioning procedure and have been tested are eligible to receive a listing label. The label should be affixed, prior to shipment, to the reconditioned axle by placing it around the axle beam.

1.7.2 Only one axle label should be present on each axle. All previously applied labels should be removed during the reconditioning process.

1.8 LABEL RECORD KEEPING

1.8.1 To provide traceability of each recycled axle, the recycler should keep the following records on forms provided by the third party inspection agency.

- .1 The serial numbers of each label and the date issued; and
- .2 The name and address of the purchaser of the axles as they relate to the serial numbers.

1.8.2 The recycler should forward to the third party inspection agency, on a monthly basis, copies of the above records.

1.9 QUALITY CONTROL PROGRAM

- 1.9.1 For purposes of this guideline, a Third Party Inspection and Listing Agency is defined as an established and recognized agency regularly engaged in conducting tests or furnishing inspection services, when such agency has been approved.
- 1.9.2 Each recycler should submit a quality control program to a third party inspection agency for approval. Said quality control program should include, but not be limited to, the following:
- .1 An organizational chart showing accountability by position of quality control personnel.
 - .2 A plant layout showing the receiving area, recycling stations, labeling stations and storage area.
 - .3 A station-by-station description of the recycling process.
 - .4 The label control and record keeping procedures including a copy of the forms used.
- 1.9.3 Each recycler should maintain primary responsibility for following and implementing his approved quality control program. Any changes to the plan or changes in responsibility should be approved by the third party inspection agency.

1.10 THIRD PARTY INSPECTION AGENCY SERVICES

- 1.10.1 Responsibility. Each recycled axle provider should secure the services of a nationally recognized third party inspection and listing agency.
- 1.10.2 Approval of Documents. A third party inspection agency should review all documents necessary for recycling certification and approve such documents if they are in conformance with Subpart J of 24 CFR 3280 and/or other industry guidelines as may be established by proper authorities.
- 1.10.3 Plant Certification. The third party inspection agency should conduct a certification inspection of the manufacturing process to assure that the recycler is capable of following the approved quality control manual, and that the facility, equipment and personnel are adequate to insure continued conformance.
- 1.10.4 Periodic Surveillance. The third party inspection agency should conduct periodic, unannounced surveillance inspections of the manufacturing facilities to assure that the recycler is continuing to produce recycled axles, which conform to the approved documents and the applicable standards. The inspection should include, but not be limited to, the disassembly of completed units, witnessing of tests and the inspection of records.
- 1.10.5 Monitoring Frequency. Recycling facilities should be monitored at a minimum frequency of once every three months. Facilities with quality problems or high production rates may need to be monitored more frequently.

1.11 INSURANCE

- 1.11.1 In order to maintain certification, all recyclers should maintain adequate levels of liability insurance to meet the needs of the customer.