


- (2) Wheels Stored Without Tires Installed
 - (a) Short-term storage of tubeless wheel assemblies may be stored with the wheel o-ring packing installed between the two halves.
 - (b) Storage of components containing rubber longer than two years should be assembled without the o-ring packing. O-rings to be placed in an ultraviolet protective package.
 - (c) Wheels stored without rubber components installed have an indefinite storage life.

4. Brake and Wheel Refinishing

Complete procedure necessary to remove existing paint from brake and wheel components and then to repaint them is described in the following paragraphs.

A. Degreasing

SAFETY WARNING  : CLEANING SOLVENTS CAN BE TOXIC AND VOLATILE. USE ONLY IN WELL VENTILATED AREAS. AVOID PHYSICAL CONTACT WITH SOLVENT AND DO NOT INHALE VAPORS. KEEP SOLVENT CONTAINERS COVERED WHEN NOT IN USE.

- (1) Clean all metal parts by immersing in a clean degreasing solution. An alkaline based solution is recommended for aluminum and magnesium parts.
- (2) Hardened dirt or grease may be removed with a soft bristle brush, or by soaking in cleaning solution.
- (3) Clean bearing cones carefully in a separate container of mineral spirits.

CAUTION: DO NOT SPIN BEARING CONES WITH COMPRESSED AIR.


- (4) After cleaning, thoroughly dry all metal parts with filtered dry compressed air.
- (5) It is recommended that all o-rings, back-up rings and wipers be replaced at each overhaul. However, if necessary, o-rings may be reused but should be put back into position from which removed.
- (6) Wipe down o-rings, back-up rings, wipers, or other rubber parts with a clean dry cloth. Lubricate with a suitable o-ring lubricant prior to installation.

B. Paint Removal

Disassemble brake and wheel components to the level required for repainting, then proceed as follows:

- (1) Degrease part per [paragraph 4.A](#).
- (2) Cleveland recommends the use of plastic media stripping techniques to be performed per equipment manufacturer's recommended instructions.

NOTE: Chemical stripping agents are commercially available for removing topcoat and primer, and may be used if plastic media stripping equipment is not available. Follow manufacturer's recommendations for use and disposal of stripping solutions. If chemical stripping is used, the Bearing Cup must be removed from the wheel half assembly prior to proceeding.

SAFETY WARNING  : CHEMICAL STRIPPING AGENT SOLVENTS CAN BE TOXIC AND VOLATILE. USE ONLY IN WELL VENTILATED AREAS. AVOID PHYSICAL CONTACT WITH SOLVENT AND DO NOT INHALE VAPORS. KEEP STRIPPING AGENT SOLVENT CONTAINERS COVERED WHEN NOT IN USE.

WARNING: **DO NOT SANDBLAST.** Sandblasting is too abrasive and will damage smooth piston bore or o-ring Seal areas.

- (3) Rinse part thoroughly with water heated to 160° to 180°F (71° to 82°C). If used, flush chemical stripping agent solvent from all cavities and threaded holes where entrapment might occur.
- (4) Thoroughly dry part with filtered, dry compressed air.
- (5) Refer to inspection procedures in [paragraph 2C](#) for specific parts to locate possible defects.

NOTE: Refinishing should be completed as soon as possible; unprotected parts will begin to corrode.

Cleveland

Wheels & Brakes




C. Surface Pretreatment

All cast products are to be surface pretreated after any nicks, dings, corrosion, or other discontinuities have been mechanically removed. It is necessary to know the cast alloy material such that the proper treatment can be performed. Both aluminum and magnesium alloy casting are used in products at Cleveland. Refer to [A3. Brake Assembly Back Plate Tie Bolt Torque](#) and [A4. Wheel Assembly Torque Values](#) table for material identification.

- (1) Aluminum parts should have a protective barrier between the topcoat and base material. It is recommended they be treated with conversion coating per MIL-C-5541, Class 1A (Alodine).

NOTE: Alodine is ineffective on magnesium.


- (a) Apply solution liberally and evenly. Allow it to set from 1 to 5 minutes. The solution must completely wet the surface and overlap onto the adjoining anodize.
- (b) Remove excess coating by flushing with clean water.

SAFETY WARNING  : RUBBER GLOVES AND EYE PROTECTION SHOULD BE WORN WHEN MIXING AND APPLYING THIS SOLUTION. CARE SHOULD BE EXERCISED TO PREVENT SKIN CONTACT. WASH EXPOSED AREAS IMMEDIATELY WITH COLD WATER AND SOAP.

- (2) Magnesium parts may be treated with surface pretreatment per MIL-M-3171, Type VI, Chromic Acid.

NOTE: MIL-M-3171 Type VI is ineffective on aluminum.

- (a) Apply mixed solution liberally at room temperature and allow to dry. Parts may be dipped for 1/2 to 2 minutes in solution at room temperature.
- (b) Remove excess coating by flushing with clean, cold water.
- (c) Dry in oven or hot air. Never rinse in hot water.

SAFETY WARNING:  EXPOSURE TO CADMIUM DUST IN UNVENTILATED GRINDING ACTIVITIES AND WORKING WITH CADMIUM AND ITS COMPOUNDS CAN BE A POTENTIAL HEALTH HAZARD.

- (3) Stripping and re-cadmium plating steel parts is generally cost prohibitive in small lot sizes. Therefore, steel parts that have been cadmium plated may be protected with an application of zinc rich cold galvanizing compound or zinc chromate. Finish with an application of a good quality topcoat.

D. Repainting

Refer to Figures 314, 315, 316 to identify surfaces of brake and wheel components that require paint. Proceed as follows:

- (1) Parts to be repainted should be cleaned and stripped per instructions in degreasing and paint removal paragraphs 4.A. and 4.B.
- (2) Pretreat surface using appropriate materials per paragraph 4.C.
- (3) Coat parts with one thin coat of zinc chromate primer or equivalent. Allow to dry thoroughly.

NOTE: Prior to prime and paint, mask any areas which had not previously been coated. This includes Cylinder piston bores, all internal threads and ports, Wheel Half seal and bearing bores (to be primed only), and Bearing Cups.

- (4) Paint parts with one coat of locally obtained, finish enamel, polyurethane, epoxy or lacquer to match original color. Allow to dry thoroughly before reassembly.

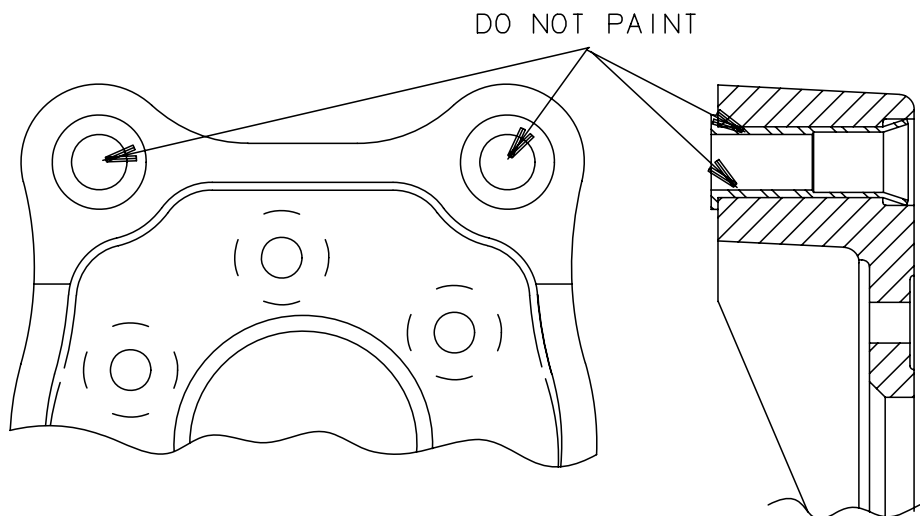


Figure 314 - Typical Torque Plate (Cast), Painted Surfaces

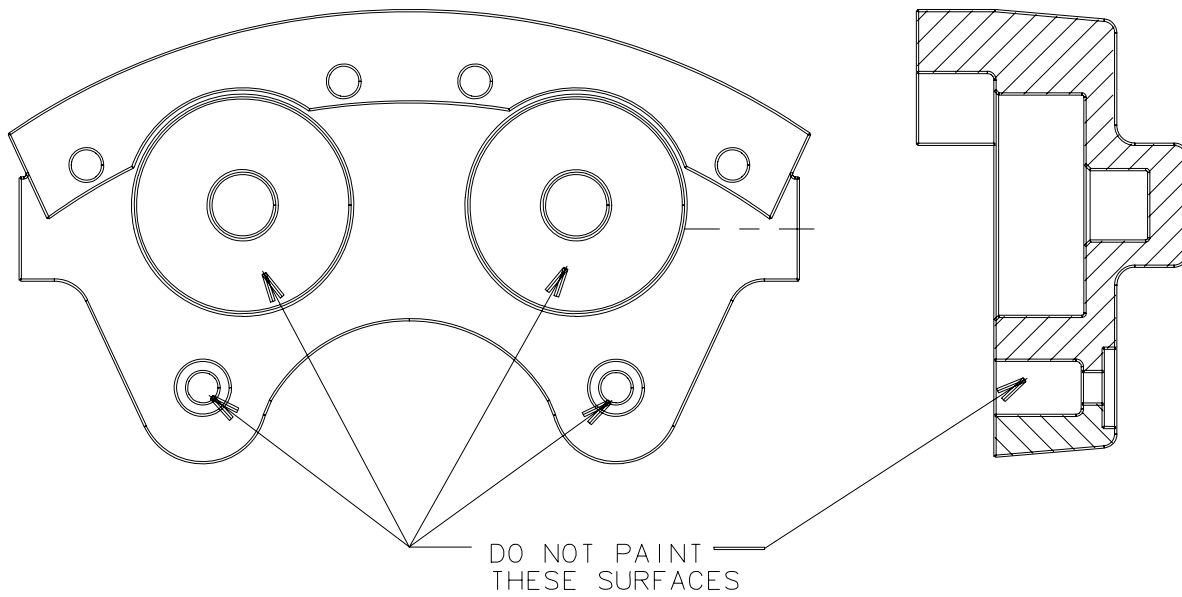


Figure 315 - Typical Brake Cylinder, Painted Surfaces

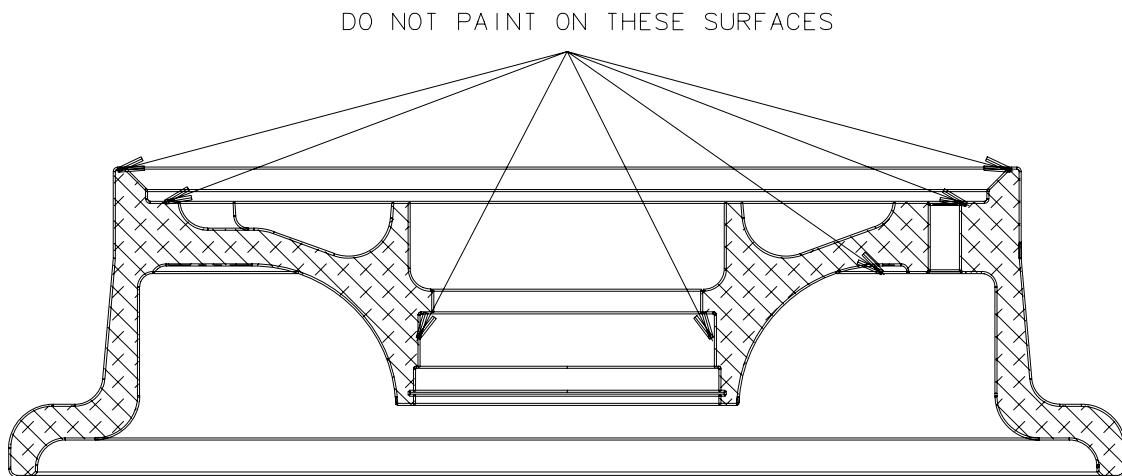


Figure 316 - Typical Wheel Half, Painted Surfaces