# MC-3 Rebuild Instructions

Following are some general guidelines to follow when rebuilding the MC-3 master cylinder assembly.

## Disassemble MC-3

1. Remove clevis and jam nut from shaft assembly.

2. Remove socket head cap screw to release shaft assembly.

3. Gently pull shaft assembly out of master cylinder bore being careful to avoid damaging bore.

## Disassemble MC-3 shaft assembly

1. Remove roll pin from shaft assembly by compressing shaft spring. A small drill bit used as a punch can be helpful in removing the roll pin.

2. Remove washer, shaft spring, and sleeve from shaft assembly.

3. Using snap ring pliers, remove snap ring which secures piston to end of shaft. Snap ring pliers are required for this to avoid damaging the piston or the shaft.

4. Remove o-ring from around piston.

5. Using solvent, Loctite solvent is recommended, dissolve Black Max adhesive which secures buna n plug to shaft head.

## Reassemble MC-3 shaft.

1. Using Black Max adhesive ( or other adhesive compatible with Mil-H-5606 red aircraft fluid), adhere buna n plug as supplied in rebuild kit to head of shaft. Allow 24 hours to dry.

2. Using 200 grit sandpaper, sand buna n plug such that plug extends 0.035"+or-.005 from head of shaft. Care should be taken to ensure that plug is sanded flat. Clean plug and shaft to ensure that no loose particles or other foreign material remain.

3. Install O-ring 2-012 to piston.

4. Using small snap ring pliers and snap ring#3000-x37, secure piston to end of shaft.

Pretest shaft assembly.

1. Pulling piston away from buna n plug, apply air to passage hole in piston to ensure free passage of air.

2. Press piston to buna n plug while still applying air to ensure that airway closes. There should be approximately .060 play between the piston and the buna n plug.

Assemble/ Secure Shaft

1. Remove and replace o-rings in sleeve assembly taking care to avoid damaging sleeve.

2. Place sleeve onto shaft as shown in drawing followed by shaft spring, and washer. Secure in place with roll pin. (It may be helpful to coat the threads of the shaft with paraffin (wax) to keep from damaging the o-ring inside the sleeve.)

3. Inspect bore of MC-3 master cylinder to ensure that no damage has occurred to o-ring surface.

4. Lightly lubricate piston and sleeve 0 rings with petroleum jelly or Mil-H-5606 red aircraft fluid and insert shaft assembly into bore.

5. Replace socket head cap screw to secure shaft assembly.

Pressure Test

1. Plug import of master cylinder using 1/8 NPT plug.

2. Attach a pressure gage to the outport of the master cylinder and fill master cylinder ensuring master cylinder is completely bled and free of air.

3. Manually activate shaft and bring pressure to 800PSI. Travel on shaft should be no more that 1/8" before pressure begins building.

4. Maintain pressure on shaft and apply side load pressure of 20 pounds.

If cylinder fails to pass pressure test check following are possible problems: buna n plug is not flat, buna n plug is out of tolerance, piston o ring damaged during installation, interior or exterior o ring on sleeve damaged during installation, air is trapped in master cylinder bore.

After master cylinder passes pressure test, replace jam nut and clevis.

MATCO mfg has a full technical staff to assist you in your rebuild. We also offer a rebuild service for $15.00 per cylinder plus parts. Please contact us for this service or to answer any questions you may have at 801-335-0582.

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