FOR SUPPORT CONTACT:
J CHADWICK CO
TEL (626) 358-9955
FAX (626) 358-1448
EMAIL support@jchadwickco.com

MODEL 4400 REPLICATION KIT
INSTRUCTIONS

JCC-P14 JAN 2016

Surface Replication Kit

For use with Model 8400 Optical Micrometer. Featuring Microset® Replication Compounds.

Standard 4400M Kit includes:

- 1 Carrying Case (P/N 4400-60)
- 1 Dispensing Gun (P/N 4400-10)
- 5 Replication Compounds (P/N 4400-2)
- 5 Nozzle Packs, 10/Pack (P/N 4400-30)
- 1 pack of Backing Slides, 50/Pack (P/N 4400-40)
- 2 packs of Backing Paper, 40/Pack (P/N 4400-50)
- 1 Tilting Stage Base (P/N 4400-70)
- 1 Optical Micrometer Base (P/N 8400-27)

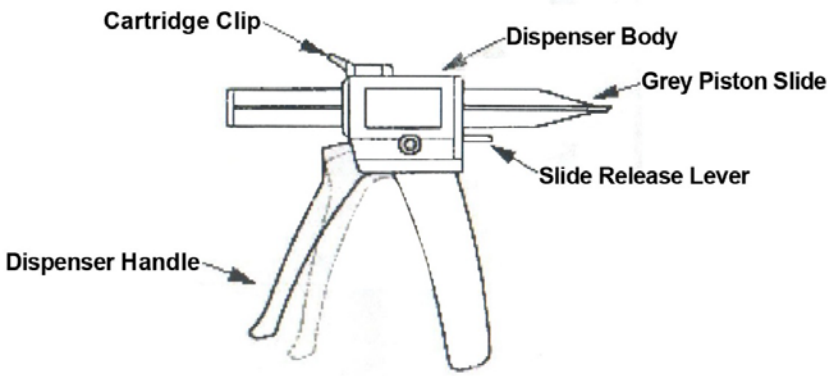
Synthetic Replicating Compound

MICROSET SYSTEM 50ml

MICROSET is supplied in a two part cartridge which is dispensed through a static mixing nozzle using a hand held dispenser. The two components of the cartridge are mixed together as they pass through the static mixing nozzle during the dispensing procedure. This ensures air-free mixing and minimum wastage of material during application.

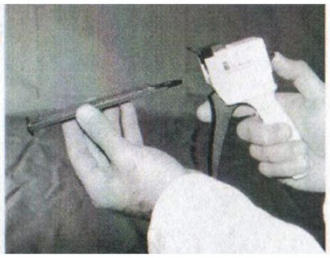
The curing rate for MICROSET compounds varies with temperature. Low temperature increases curing time. High temperature decreases curing time. Refer to the details printed on the cartridge.

ASSEMBLING THE DISPENSER



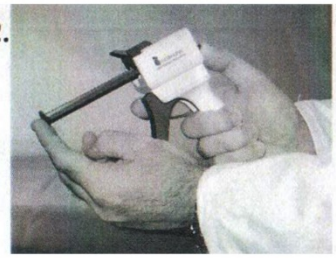
STEP 1: DISPENSER ASSEMBLY

1.



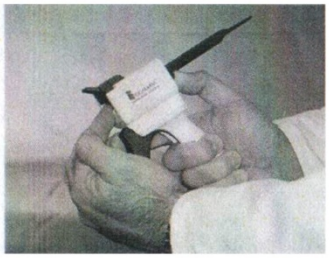
Raise slide release lever on dispenser body and insert piston slide.

2.



Keep slide release lever raised and push slide back as far as possible.

3.



FOR SUPPORT CONTACT:
J CHADWICK CO
TEL (626) 358-9955
FAX (626) 358-1448
EMAIL support@jchadwickco.com

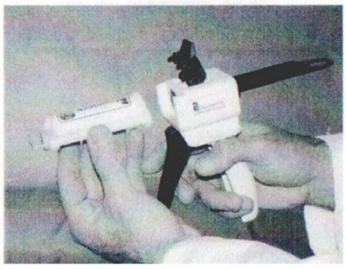
MODEL 4400 REPLICATION KIT
INSTRUCTIONS

JCC-P14 JAN 2016

LOADING AND REMOVING CARTRIDGES

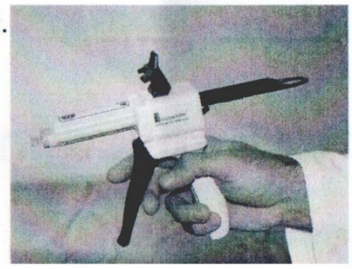
STEP 1: FIT CARTRIDGE ON DISPENSER

1.

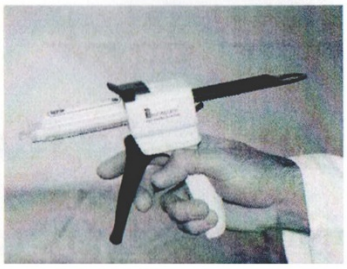


Lift cartridge retaining clip on dispenser body and position cartridge.

2.



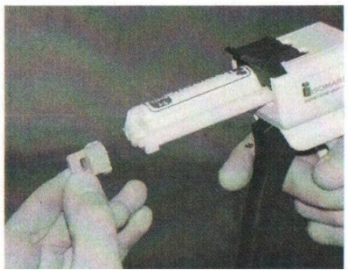
3.



Lower cartridge retaining clip on dispenser body.

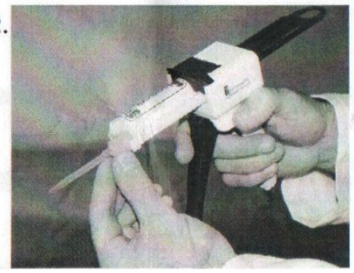
STEP 2: FIT MIXING NOZZLE TO CARTRIDGE

1.



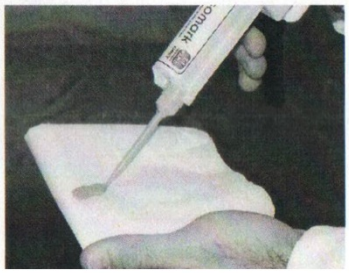
Rotate cartridge cap counter-clockwise ¼ turn and pull to remove.

2.



Position mixing nozzle on cartridge and rotate clockwise ¼ turn to lock.

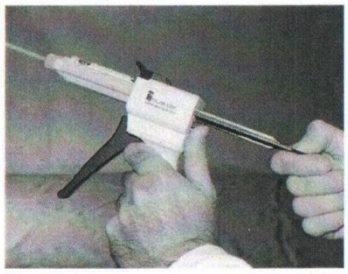
3.



Dispense a small amount of compound on to waste paper (for new cartridge only).

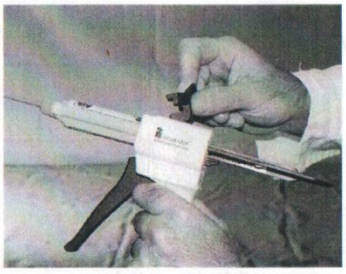
STEP 3: REMOVAL OF EMPTY CARTRIDGE

1.



Raise slide release lever and withdraw piston slide.

2.



Lift cartridge retaining clip.

3.

Remove cartridge from dispenser body.

FOR SUPPORT CONTACT:
J CHADWICK CO
TEL (626) 358-9955
FAX (626) 358-1448
EMAIL support@jchadwickco.com

MODEL 4400 REPLICATION KIT
INSTRUCTIONS

JCC-P14 JAN 2016

MAKING REPLICAS

1. Operate the dispenser smoothly to apply the MICROSET compound. Keep the nozzle end touching or as close to the surface as possible to avoid trapping air in the replica and to force the material into surface features. Overlap runs to cover larger areas. Weave the nozzle end from side to side if a wider bead is required. Note that each weave should overlap the previous one. When replicating vertical surfaces, work upwards.
2. Do not apply excessive hand pressure to the dispenser as this may damage the operating mechanism.
3. Do not stop flow of the material through the nozzle for longer than the working life of the MICROSET grade being used. Once the working life has been exceeded a new nozzle will need to be fitted.
4. If desired, apply backing slide or paper to surface of exposed compound. Allow the MICROSET compound to cure (check cartridge for the curing time) and then carefully peel off the cured replica from one side. To prevent damage and loss of recorded detail do not touch the replica surface and store the replica in a plastic bag.
5. After use, remove the nozzle and replace the cap. To re-use the cartridge, fit a new nozzle.

FOR SUPPORT CONTACT:
J CHADWICK CO
TEL (626) 358-9955
FAX (626) 358-1448
EMAIL support@jchadwickco.com

MODEL 4400 REPLICATION KIT
INSTRUCTIONS

JCC-P14 JAN 2016

TROUBLE - SHOOTING

Problem	Reason	Action Required
Nozzle will not fit onto cartridge.	Nozzle not aligned with cartridge ports.	Alight parts correctly and twist nozzle on.
Dispensing gun fails to pressurize cartridge.	Damaged piston slide.	Check piston slide and replace if necessary.
Compound does not bond to backing paper.	Wrong side of backing paper used.	See backing paper instructions.
Material cures in the nozzle.	Stop/Start operation or nozzle attached for a long period before use.	Replace nozzle and proceed without delay.
Material does not dispense from the nozzle after replacing a previous nozzle.	Cartridge ports have cured over.	Remove cured material or discard cartridge. The nozzle can be used as a seal for up to 4 months.
When using a new cartridge the first part of the replica does not cure.	Cartridge not leveled before attaching nozzle.	Cartridge will not work satisfactorily with subsequent nozzles. To level the cartridge: prior to fitting nozzle, dispense small amount of material until even quantities issue form both cartridge ports.
Material cures too quickly or too slowly.	Incorrect grade being used for the ambient temperature.	Choose a grade appropriate for the conditions. See compound chart.
Air bubble entrapment.	Poor application.	Keep the nozzle in contact with the surface. For blind holes place the lip of the nozzle at the bottom of the hole.
Replica distorts and resolution is poor when examined microscopically.	Replica too soft when removed due to incomplete curing.	Extend curing period.
Replica surface does not cure.	Cure inhibited by surface contamination e.g. grease, oil, etc.	Clean surface with solvent/ suitable cleaning agent and re-apply compound.
Replica breaks during removal.	Severe re-entrant geometry or replica not completely cured.	Allow adequate curing time. Remove slowly applying constant pressure.
Excessive voids in replica when using thixotropic materials.	Air entrapment due to poor application.	Keep the nozzle in contact with the surface. Overlap runs and use backing paper.
Replica adheres to surface.	Mechanical attachment to fibrous or porous surface.	Remove slowly applying constant pressure.
Base piston on cartridge leaks.	Excessive pressure on dispensing gun due to nozzle blockage.	Remove cured material if possible or replace cartridge.