

CONTACT RETENTION TEST TOOLS

DMC[®] offers a complete line of Contact Retention Test Tools to check the retention of power contacts.

These tools check the retention of pins and sockets in electrical connectors by indicating when proper pressure has been applied. The Contact Retention Test Tools consist of two parts: the tool body and the removable tester tips.

Each tool body is set for a different poundage range (see Chart A). The tools can be preset at the factory to your request. A nylon hand protector is provided with each tool body. The tester tips are color coded for specific sizes and designated for pins or sockets. Use pin end tips to test sockets and socket end tips to test pins.

DMC recommends that the lightest pressure be used to test proper installation of electrical contacts. Three to five pounds is adequate to test most installed contacts. Additional information is available. Please consult DMC.



CONNECTOR SERIES SERVICED	
AS50151	MIL-DTL-38999
MIL-DTL-24308	MIL-C-81511
MIL-DTL-26482	MIL-C-81659
MIL-DTL-26500	AS81703
MIL-DTL-28748	MIL-DTL-83723
Proprietary and other military connector series may be serviced by DMC retention testers. Please consult DMC for verification.	

CHART A	
TOOL PART NUMBER	RANGE POUNDS
HT250-1	1.5 - 3.0
HT250-2	3.0 - 5.5
HT250-3	4.0 - 8.0
HT250-4	7.0 - 18.0
HT250-5	17.0 - 25.0
HT250-6	24.0 - 40.0



Typical application of tool testing a pin contact

CHART B				
CONTACT SIZE	COLOR CODE	SOCKET TESTER	PIN TESTER	TOOL BODY*
4	Yellow	67-004-01	68-004-01	HT250-6
6	Blue	67-006-01	68-006-01	
8	Red	67-008-01	68-008-01	HT250-5
10	Gray	67-010-01	68-010-01	
12	Yellow	67-012-01	68-012-01	HT250-4
16	Blue	67-016-01	68-016-01	
20	Red	67-020-01	68-020-01	HT250-3
22, 22M, 22D	Copper	67-022-01	68-022-01	
23	Black	67-023-01	68-023-01	HT250-1
24	Gold	67-024-01	68-024-01	
26	Green	67-026-01	68-026-01	

NOTE: Tips are ordered separately from tool handle. Additional tips, tool sets, and the DMC95 kit are also available. Contact DMC for more details.

*Per NASA-STD-8739.4A

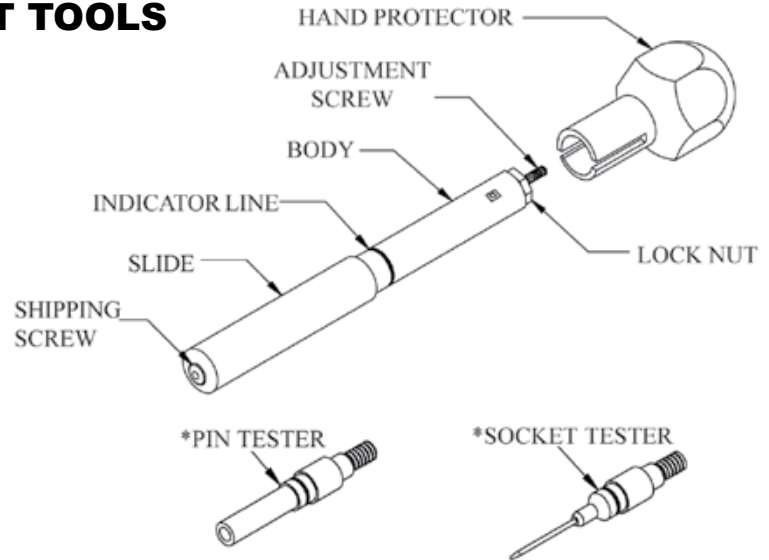
HT250 ADJUSTABLE RETENTION TEST TOOLS

TOOL SET UP

1. Tool part number designates tool body only, without tip. Refer to Chart A for preset range of tool. The repeatable accuracy of the force setting within the stated range is $\pm 10\%$.
2. Remove button head (shipping) screw. Select appropriate tip and screw into tool body through slide. Refer to Chart B for tip part numbers.

USE OF TOOL

1. To test retention of socket contacts, use socket tester tip with preset tool. Insert tester (pin) into mating end of contact. Tool must be in a straight line with contact. For pin contacts, fit pin tester to tool body and place over contact at the mating end.
2. Apply pressure toward contact until slide aligns with indicator mark, contact should remain firmly in place.



Scan the QR Code to watch a tutorial video on Contact Retention Test Tools or visit this link: <https://qrco.de/bdIUFI>

NOTE: Retention test tools are to be used for POWER CONTACTS ONLY. Not for use with COAX or TRIAX contacts. Retention test tools should be used as a simple indicator to verify contact locking. The forces specified in connector specifications for qualification are not suitable for in-process verification. Damage to connectors may occur. Refer to the current rev of NASA-STD-8739.4A for recommended test values. These values may not be suitable in all applications due to intended duty rating of the connector being assembled. Consult the relevant engineering authority. Retention testing to MIL-STD-1344 (method 2007.1) will require different test equipment. For additional information, please consult DMC.

OPTIONAL CALIBRATION EQUIPMENT



The DMC RCTG-75B calibration fixture supports in-house calibration of DMC HT250 series retention testers. It incorporates the latest Alphatron® digital test technology, and is self-contained and portable.

The RCTG-75B is provided with a calibration certificate to NIST (accuracy 0.5% full scale to 75 pounds force).

TOOL ADJUSTMENT

1. Remove hand protector, back off lock nut away from body of tool to allow free movement of adjustment screw.
2. Secure tool in **RCTG-75B** or equivalent setting gage for precise calibration. If precise calibration isn't required, you can set the tool by holding the tool firmly by hand on a scale or other weight indicating device, and apply axial force until the end of the slide is aligned with the indicator mark. Note reading of force on gage (or accurate weight-scale).
3. Adjust tool to required force by turning adjustment screw with a screwdriver, clockwise to increase force and counterclockwise to decrease force. When required value is achieved, tighten lock nut firmly while maintaining alignment of slide and indicator line. Tool is now set.
4. Note: Inspection stickers may be used to seal hand protector onto tool body, in order to signal any tampering with the adjustment screw.