

# **BASELINE<sup>®</sup>** EVALUATION INSTRUMENTS

## **Mechanical Push-Pull Dynamometer**

### **Instruction Manual**

#### **REF**

12-0300	0-2.2 lbs / 1 kg range
12-0301	0-5.5 lbs / 2.5 kg range
12-0302	0-11 lbs / 5 kg range
12-0304	0-22 lbs / 10 kg range
12-0303	0-66 lbs / 30 kg range

shown with curved  
push pad attachment



push attachments



pull attachments



**FEI**  
FABRICATION  
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## Mechanical Push-Pull Dynamometer includes:

Protective carry case with 11-piece accessory pack:

- (2) Curved push pads (a, b)
- (1) Straight push pad (c)
- (4) Circular push tips (d, e, f, g)
- (1) Open pull hook (h)
- (1) Snap-close pull hook (i) with (1) pull adapter (j)
- (1) Gauge (k)



## Specifications:

Measurement range and graduations for each model

model	range	graduations
12-0300	0-2.2 lbs / 1 kg	.02 lbs / 10 g
12-0301	0-5.5 lbs / 2.5 kg	.05 lbs / 25 g
12-0302	0-11 lbs / 5 kg	.10 lbs / 50 g
12-0304	0-22 lbs / 10 kg	.25 lbs / 100 g
12-0303	0-66 lbs / 30 kg	.50 lbs / 250 g



## Intended use for strength measurement:

- Maximum pointer remains until reset
- Use (a, b, c) in push mode to conduct "make" or "break" strength tests
- Use pull mode to conduct tests in which pulling is required

## Intended use for sensory evaluation:

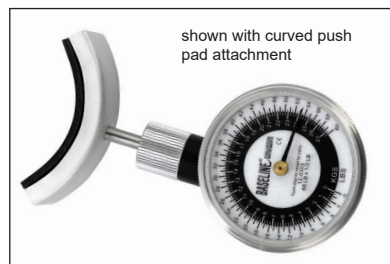
- Use push tips (d, e, f, g) for sensory and pain threshold evaluation

## Other uses:

- Use pull hooks as hanging scale to measure weight of object

## How to use push mode

- Push side has threaded stud
- Screw clockwise desired push attachment onto stud and hand-tighten
- Remove attachment when not in use



## How to use pull mode

- Pull side of the gauge head has threaded cavity (hole). The thread begins approximately 1 in. (2.5 cm) inside cavity (gauge housing)

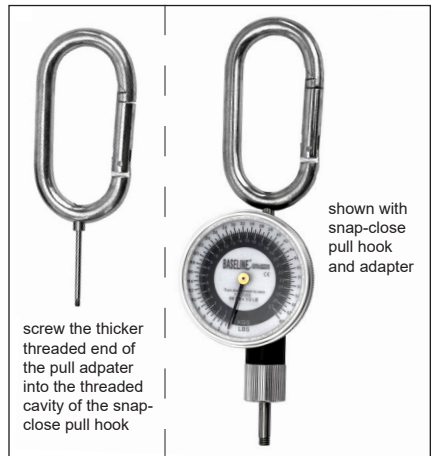
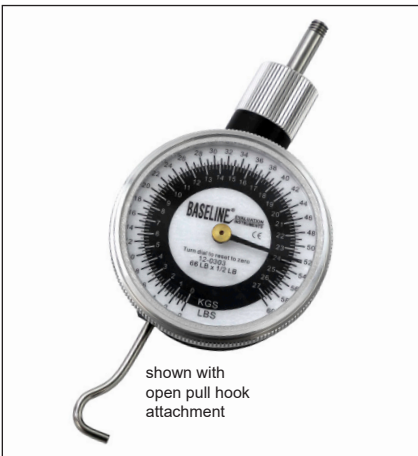
### For open pull hook

- Insert then screw male portion (threaded stud) of open pull hook into threaded cavity

### For closed snap-hook

- Screw clockwise the thicker threaded end of the pull adapter into the threaded cavity of the snap-close pull hook. Insert the thinner threaded end of the pull adapter into the threaded cavity on the gauge and screw clockwise to attach

**NOTE: Remove hook and/or adapter stud from gauge when not in use**



## How to reset dynamometer

- Press button on the side of the gauge (fig. 1)
- Turn the front of the gauge so it lines up with the zero mark (fig. 2)



# Introduction to Manual Muscle Testing (MMT)

## Reasons for Muscle testing:

Screening: measurement of the subject's strength against a known norm (i.e., grip strength of fireman) or against a benchmark value needed to perform a given task (i.e., "ability to lift a box")

Comparative: to measure the subject's strength dominant side vs. non-dominant side (right hand against left hand) to ascertain extent of "impairment." To measure the subject's strength over time to ascertain the effectiveness of a treatment protocol.

## General Testing Concepts

Refer to appropriate textbooks and manual muscle testing resources and guides for patient conditions suitable for dynamometry testing, further testing methods and protocols, and evaluation of test data.

## Muscle testing methodology:

Positioning the subject: The angle of the joint during the test has a direct effect on the strength measurement result. If the objective is to simulate a given activity, then the joint angle should be as close as possible to the angle required by the activity to be performed.

Stabilizing the subject: The subject's body should be stabilized to ensure that the muscle or muscle group being tested is isolated.

## Testing methodology:

Break test: The tester firmly holds the dynamometer and applies force against the subject's body part until it begins to move. The reading represents the muscle strength "break" point at which the subject could not overcome the tester's force.

Make test: The subject initiates and exerts a force against the dynamometer (that is firmly held by the practitioner) until the dynamometer begins to move. The reading represents the muscle strength "make" point at which the subject overcomes the tester's force of resistance.

Instrument test: The subject gradually (no sudden or abrupt movements) exerts force against the instrument until the strength or pain threshold's reached. The final result is not dependent upon the tester's resistance, only upon the instrument.

Consistent results: Regardless of the test, the subject should be made to perform the test three (3) times. If the individual readings are inconsistent, wait a few minutes and repeat the test. If possible, test the uninjured side first.

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## Tolerances:

This product has a tolerance of  $\pm 5\%$  of the full scale of the specific device.

## Disposal Method

Dispose of item in accordance with the local/regional/national/international regulations.



## WARNING:

- Secure all attachments before testing
- Verify stable mounting when applicable
- Check all accessories for wear
- Clean contact surfaces between uses
- Do not exceed rated capacity
- Ensure proper body positioning during use
- Inspect connections regularly
- Check digital display function



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