

Titan UI Design Specification

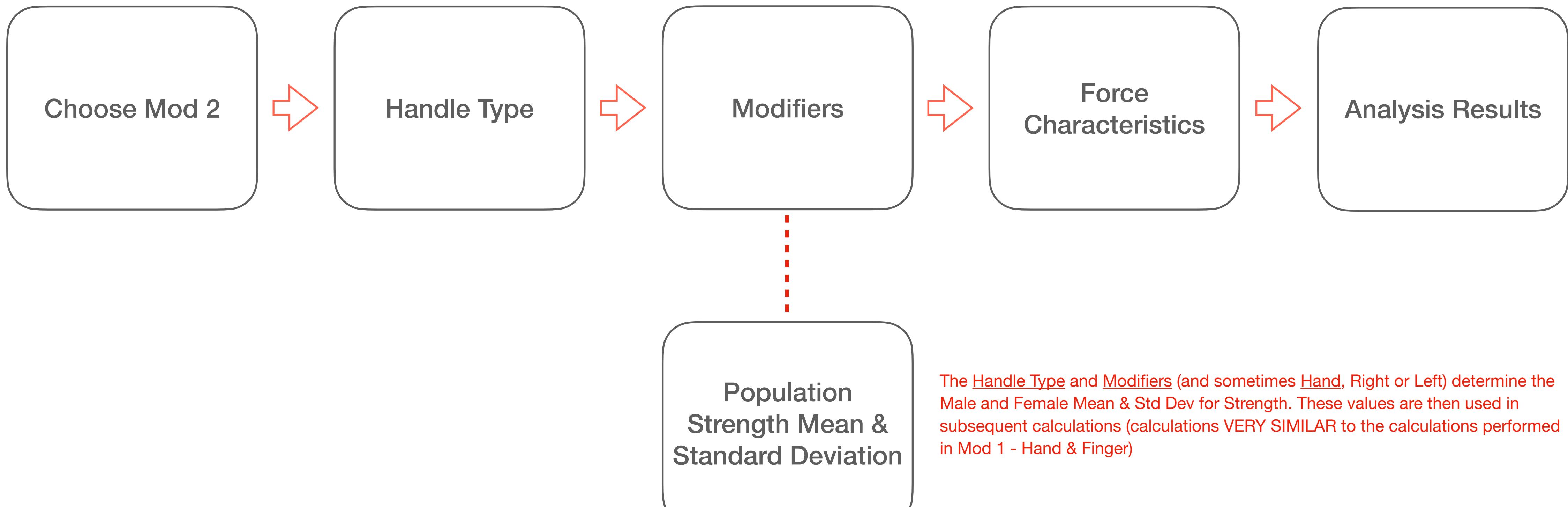
Mod 2 - Twist/Turn

PART 1, 2 & 3

January 2, 2025

For Mod 2 - Twist/Turn, the general flow is for the user to first select Handle Type. Then, that Handle Type's modifiers are displayed. Note that, similar to Mod 1 - Hand & Finger, Modifiers are often different for each individual Handle Type.

Mod 2 - Twist/Turn, Flow Diagram



The Handle Type and Modifiers (and sometimes Hand, Right or Left) determine the Male and Female Mean & Std Dev for Strength. These values are then used in subsequent calculations (calculations VERY SIMILAR to the calculations performed in Mod 1 - Hand & Finger)

Gender	Mean	Standard Deviation
Male	4.15	0.65
Female	3.25	0.05

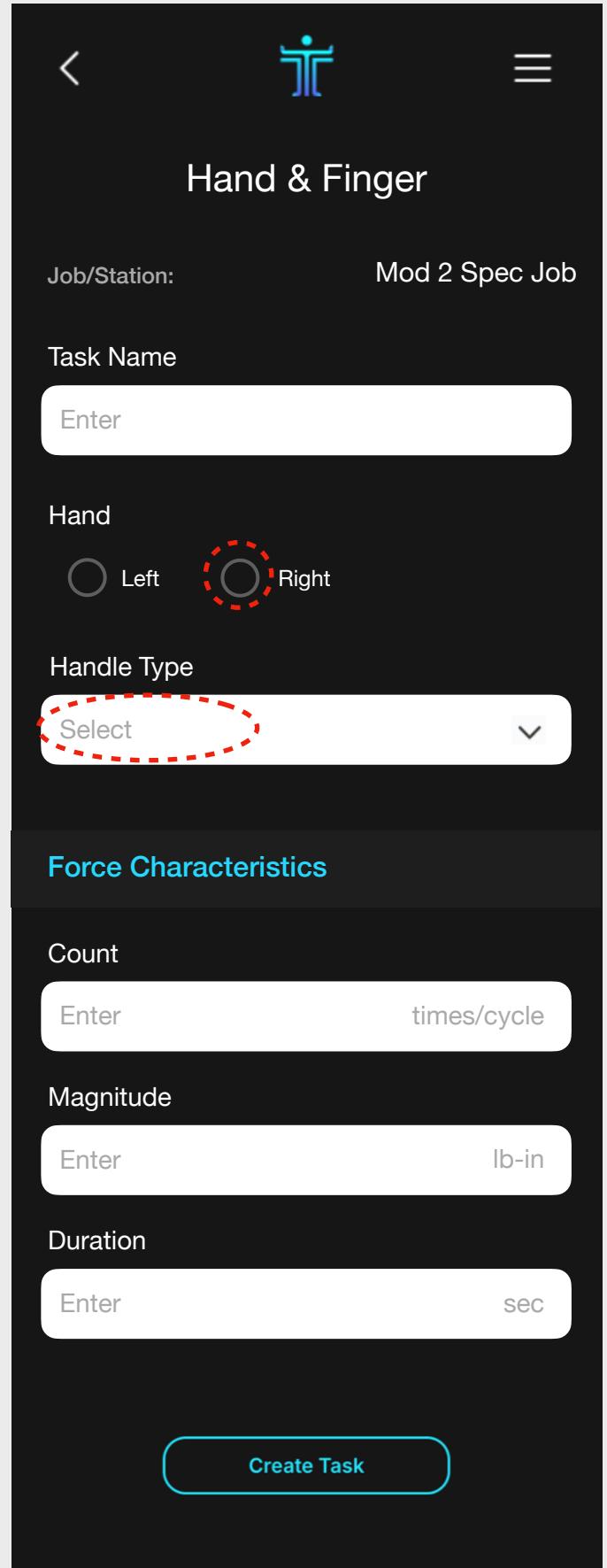
Mod 2 _ UI Specification - Example Use-Sequence

The sequence of screenshots illustrates the process of defining a task in the 'Hand & Finger' category for 'Mod 2 Spec Job'.

- Step 1: Job/Station Selection**
The user is in the 'Edit' mode, selecting 'Mod 2 Spec Job' as the job/station. The cycle time is set to 65 seconds. The analysis categories shown are Hand & Finger, Twist/Turn, Arm Force, Lift-Lower, Push-Pull, and Carry.
- Step 2: Task Category Selection**
The user has selected the 'Twist/Turn' category. A note at the bottom indicates: "Select Add Task icon (+) above to create first task for Twist/Turn".
- Step 3: Task Definition**
The user is defining a task for the 'Twist/Turn' category. The task name is 'Mod 2 Example Task'. The 'Hand' is set to 'Right'. The 'Handle Type' dropdown is open, showing 'Select' as the current choice. The 'Force Characteristics' section includes fields for 'Count' (Enter times/cycle), 'Magnitude' (Enter lb-in), and 'Duration' (Enter sec). A red arrow points to the 'lb-in' unit for Magnitude.
- Step 4: Handle Selection**
The user has selected the 'Right' hand and is viewing the 'Select' screen for handle types. The handles shown are: 1 - Key (dashed red circle), 2 - Door Knob, 3 - L-Shaped, 4 - Ridged Knob, 5 - Tap, and 6 - Wing Nut. A red arrow points to the 'Right' hand selection, and a red annotation states: "In Mod 2, there is not a 'Both' choice for Hand".

In Mod 2, the unit for Magnitude is "lb-in" (short for inch-pound). Otherwise, Force Characteristics is exactly like Mod 1 - Hand & Finger.

Handle Type: 1 - Key



Job/Station: Mod 2 Spec Job

Task Name: Enter

Hand: Left Right

Handle Type: Select

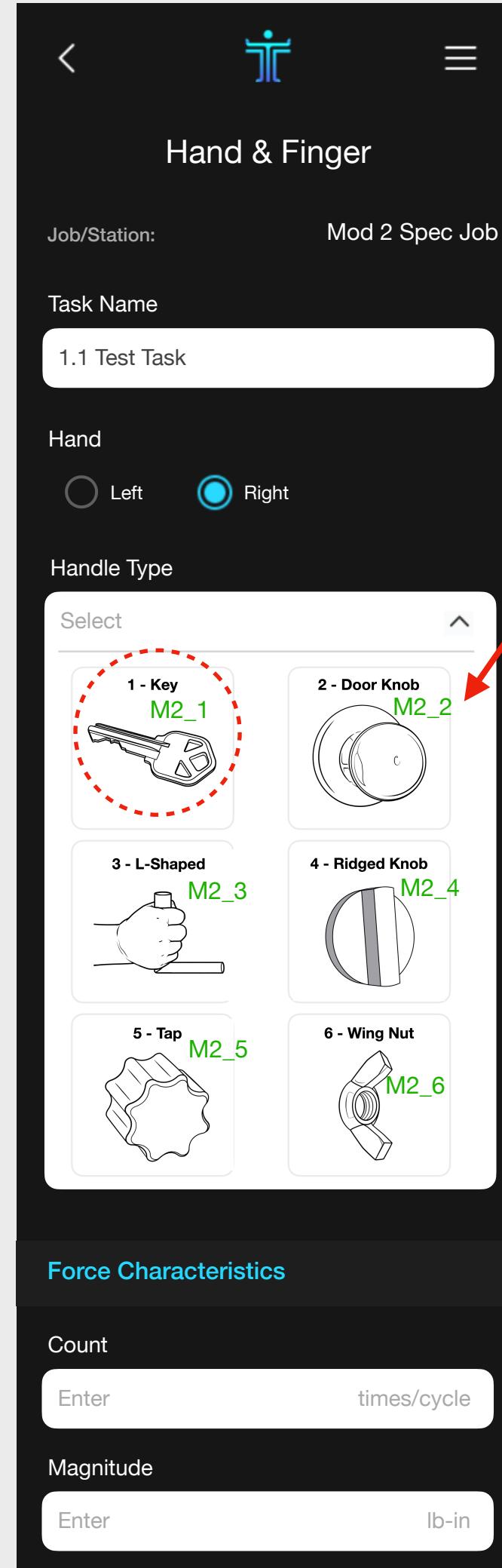
Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task



Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: Select

1 - Key M2_1

2 - Door Knob M2_2

3 - L-Shaped M2_3

4 - Ridged Knob M2_4

5 - Tap M2_5

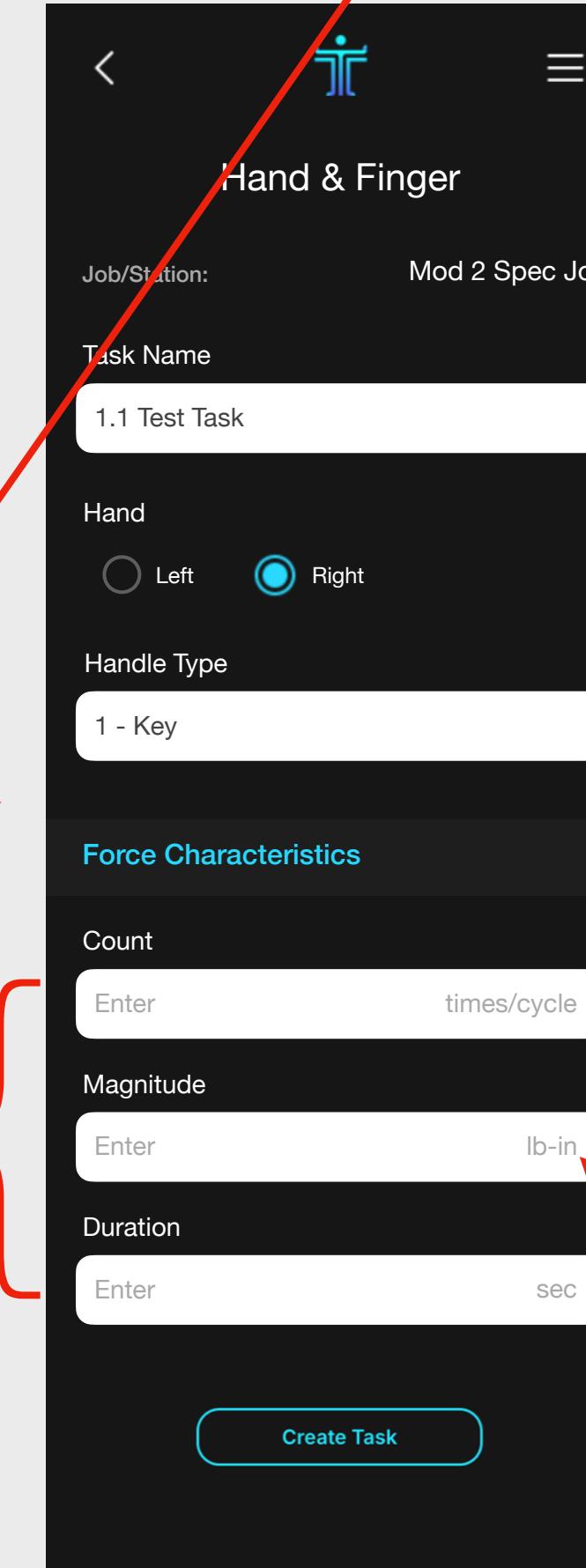
6 - Wing Nut M2_6

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec



Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 1 - Key

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Image Identification: M2_2 is Mod 2, Image 2

These image codes are used in the file names of the .PNG images in the Google Drive folder.

For **1 - Key**, there are no Modifiers, so the **Handle Type** alone determines the Male & Female Population Strength values used in subsequent calculations. See values below.

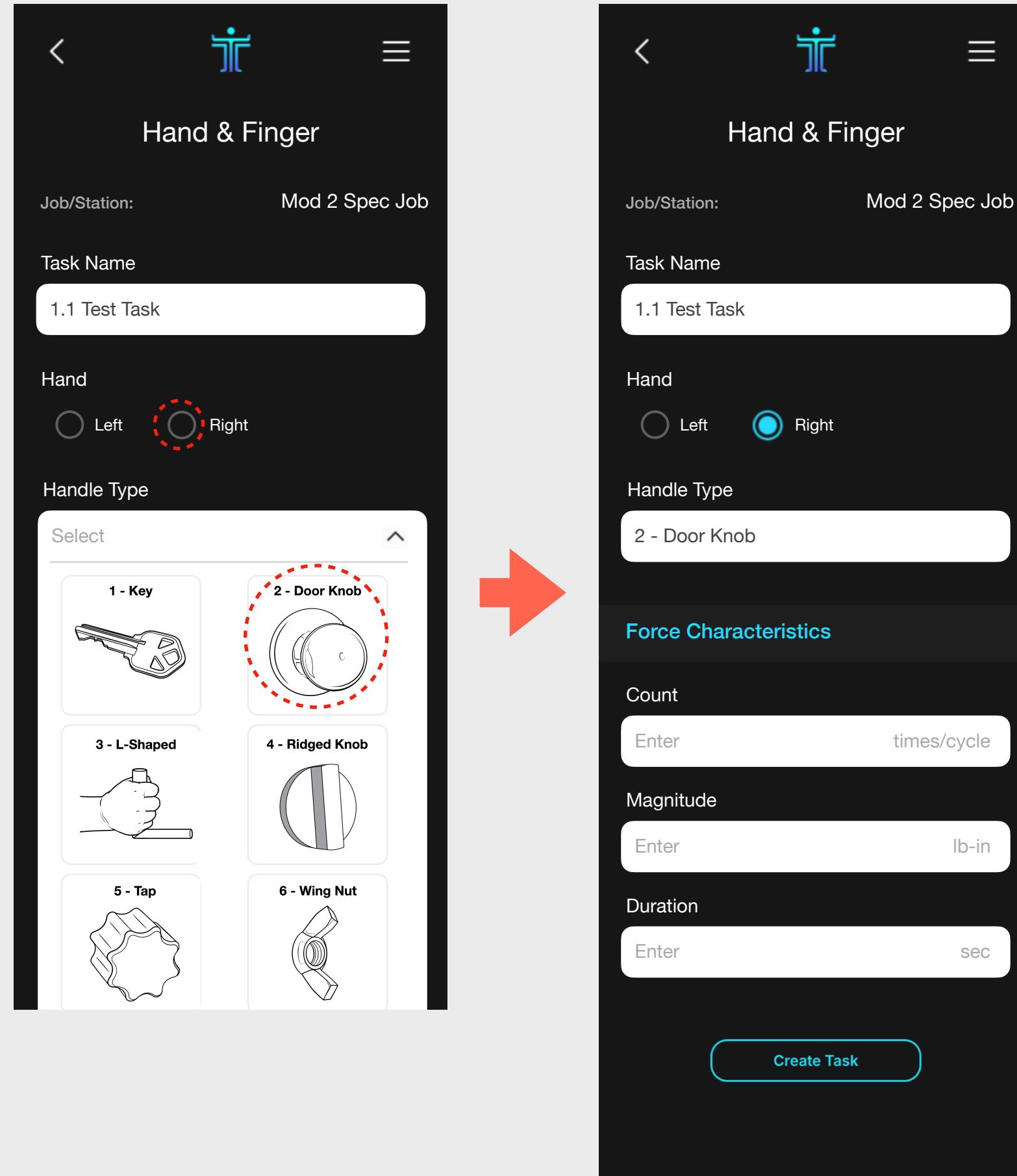
Handle Type	MALE		FEMALE	
	Mean	SD	Mean	SD
1 - Key	36.73	5.75	28.76	0.44

For **1 - Key**, the Hand (Left or Right) has no impact on Population Strength values.

Throughout **Mod 2 - Twist/Turn**, the unit of **Magnitude** is inch-pounds, **lb-in**

Note that the **Force Characteristics** entry boxes do not change by Handle Type. These boxes (i.e., Count, Magnitude, and Duration) are the same for all Handle Types.

Handle Type: 2 - Door Knob



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type:

2 - Door Knob

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

For **2 - Door Knob**, there are no Modifiers, so the **Handle Type** alone determines the Male & Female Population Strength values used in subsequent calculations. See values below.

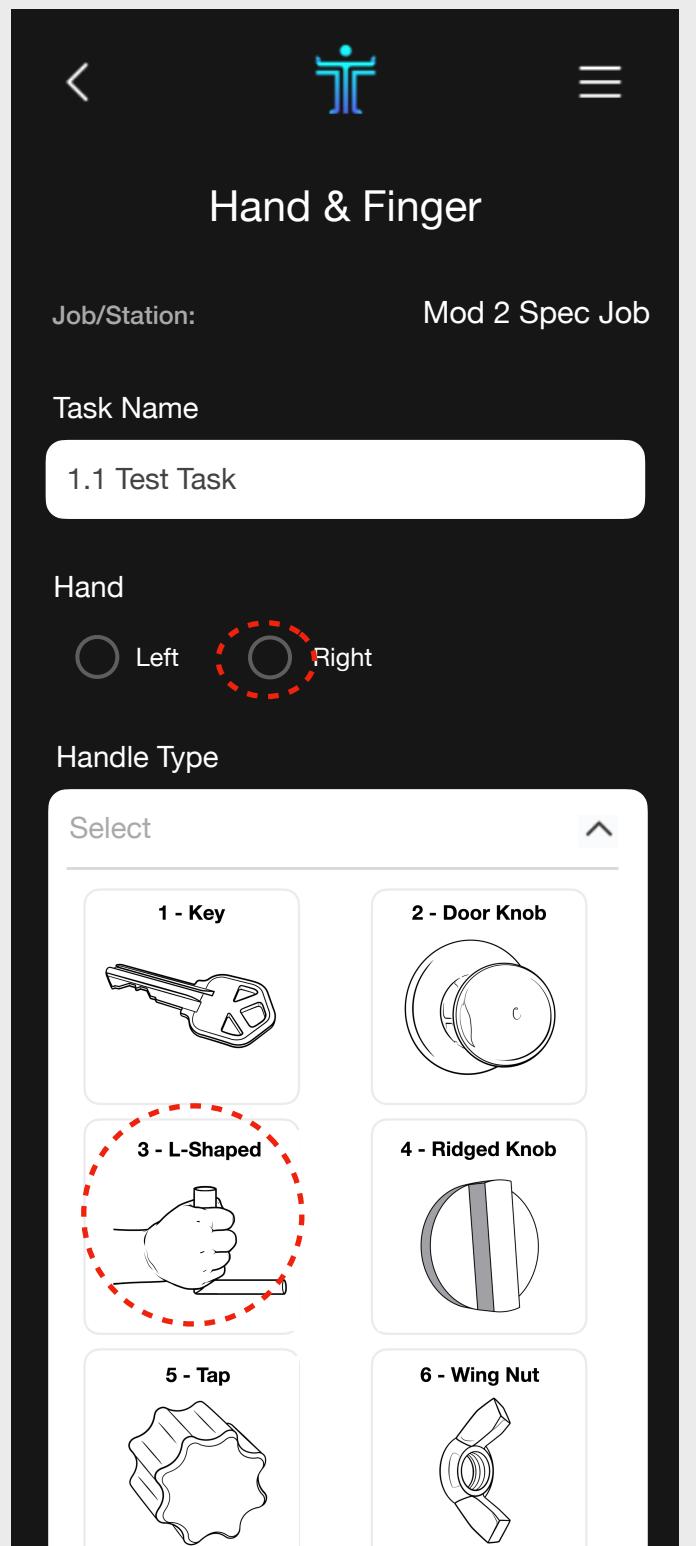


Handle Type	MALE		FEMALE	
	Mean	SD	Mean	SD
2 - Door Knob	61.51	21.86	46.47	12.75

For **2 - Door Knob**, the Hand (Left or Right) has no impact on Population Strength values.

Handle Type: 3 - L-Shaped

Screen 1



Hand & Finger

Job/Station: Mod 2 Spec Job

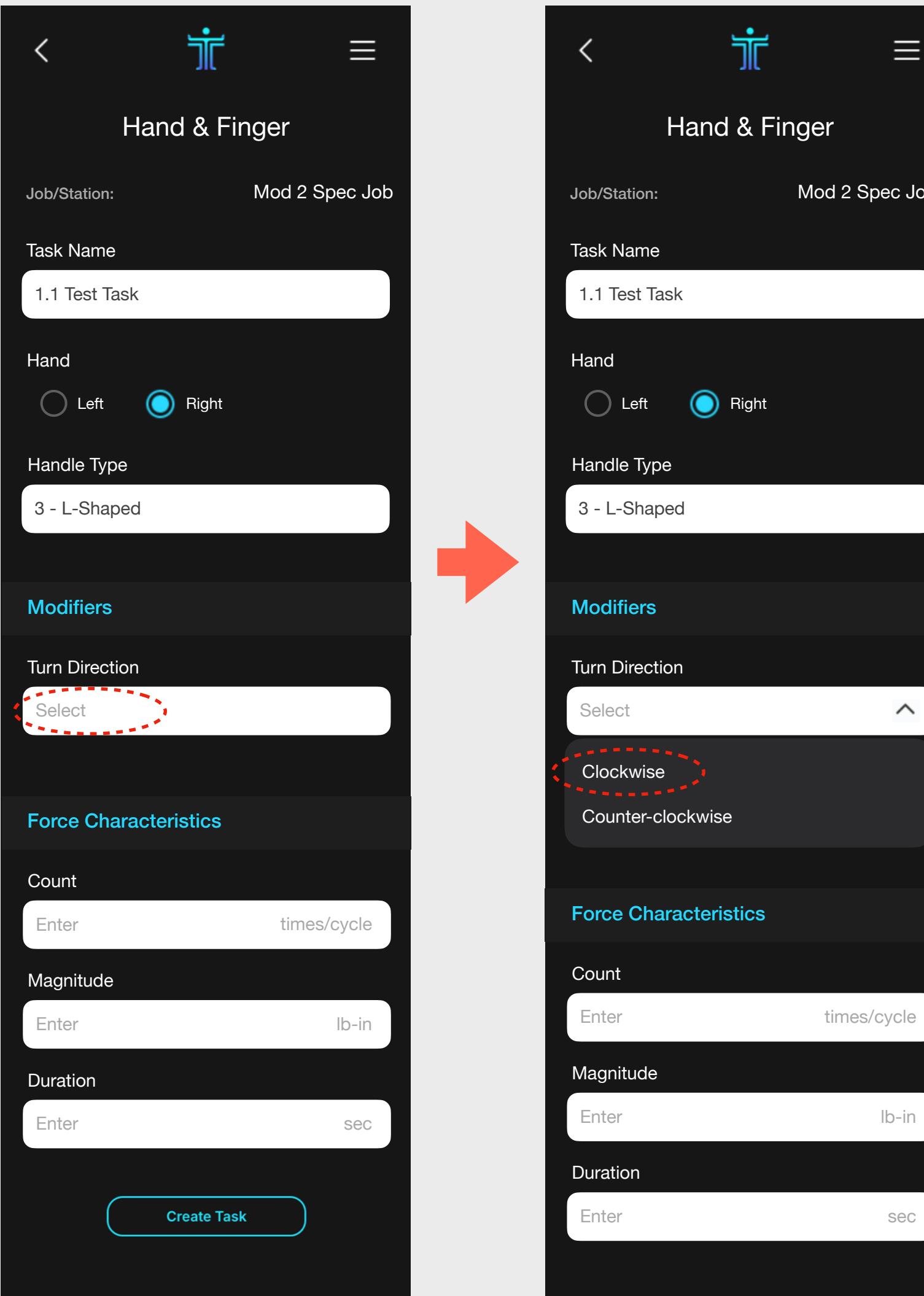
Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: Select

1 - Key
2 - Door Knob
3 - L-Shaped
4 - Ridged Knob
5 - Tap
6 - Wing Nut

Screen 2



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 3 - L-Shaped

Modifiers

Turn Direction: Select

Clockwise
Counter-clockwise

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

In Screen 1, the user makes entries/selections for **Task Name**, **Hand**, and **Handle Type**.

Then, Screen 2 displays the **Modifiers** for **3 - L-Shaped**. As with **Force Type** in **Mod 1 - Hand & Finger**, the **Handle Type** determines the **Modifiers** that are displayed.

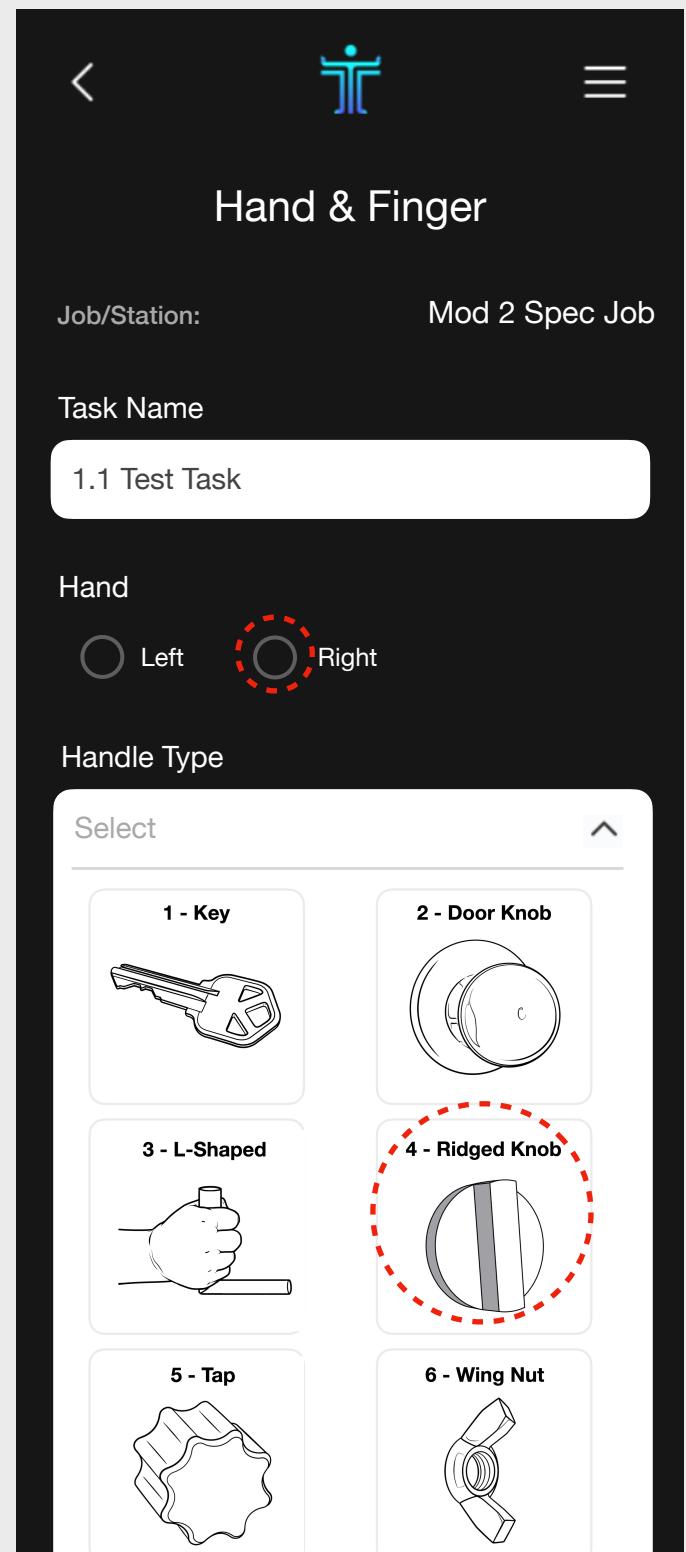
For **3 - L-Shaped**, **Hand** (Right or Left), **Handle Type**, and the Modifier **Turn Direction** determine the Male & Female Population Strength values used in subsequent calculations. See selections and subsequent values below.

In this example, entries/selections of interest are “Right” for Hand and “Clockwise” for Turn Direction.

Handle Type	Hand	Turn Direction	MALE		FEMALE	
			Mean	SD	Mean	SD
L-Shaped	Right	Counter-clockwise	154.00	46.02	101.64	30.38
		Clockwise	121.26	30.09	80.03	19.86
	Left	Clockwise	154.00	46.02	101.64	30.38
		Counter-clockwise	121.26	30.09	80.03	19.86

For **3 - L-Shaped**, the Hand (Left or Right) **DOES** have an impact on Population Strength values.

Handle Type: 4 - Ridged Knob



Hand & Finger

Job/Station: Mod 2 Spec Job

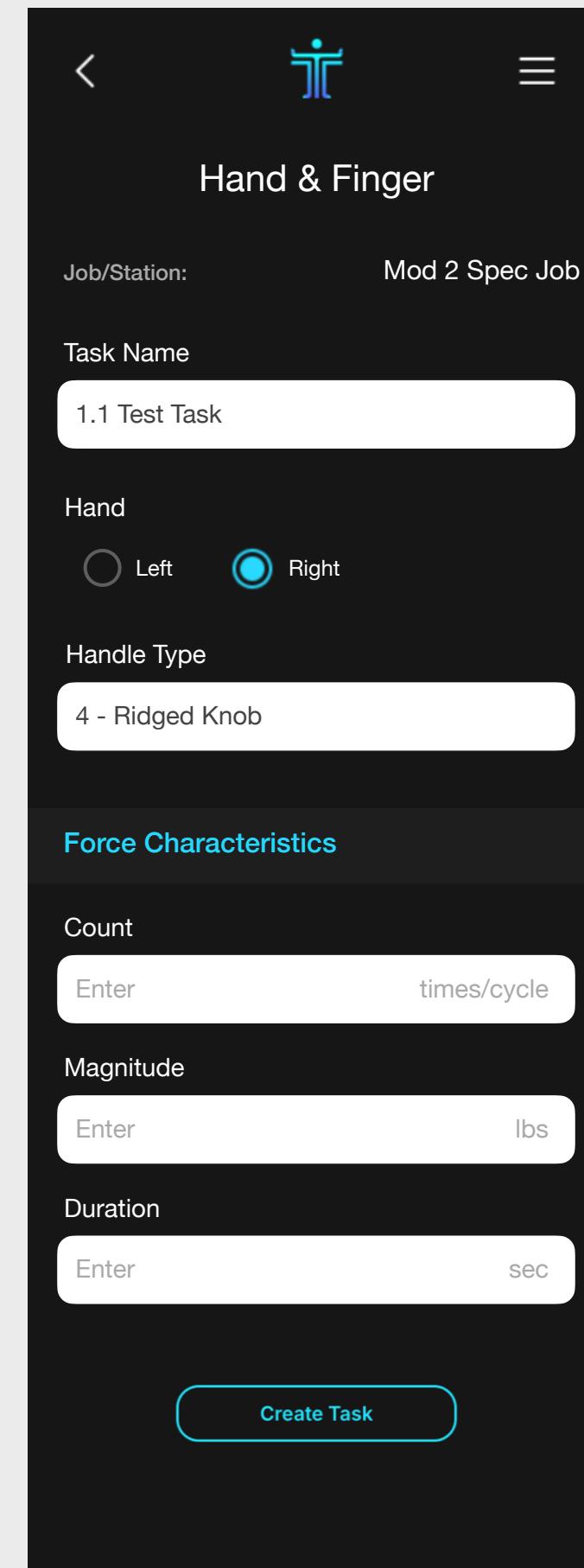
Task Name: 1.1 Test Task

Hand: Left Right

Handle Type:

Select

- 1 - Key
- 2 - Door Knob
- 3 - L-Shaped
- 4 - Ridged Knob
- 5 - Tap
- 6 - Wing Nut



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type:

4 - Ridged Knob

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lbs

Duration: Enter sec

Create Task

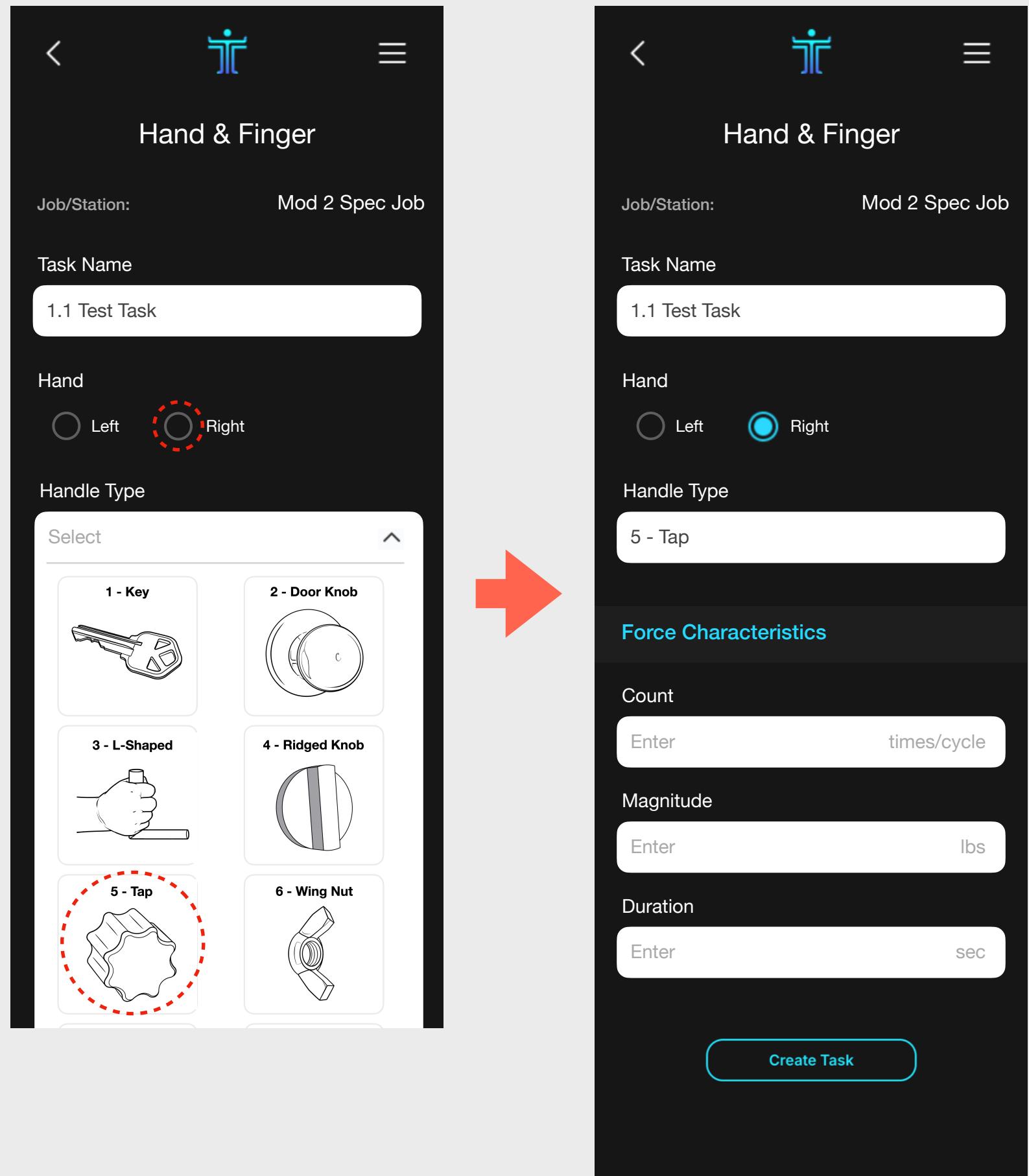
For **4 - Ridged Knob**, there are no Modifiers, so the **Handle Type** alone determines the Male & Female Population Strength values used in subsequent calculations. See values below.



Handle Type	MALE		FEMALE	
	Mean	SD	Mean	SD
4 - Ridged Knob	37.79	8.67	25.40	5.66

For **4 - Ridged Knob**, the Hand (Left or Right) has no impact on Population Strength values.

Handle Type: 5 - Tap



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: Select

1 - Key	2 - Door Knob
3 - L-Shaped	4 - Ridged Knob
5 - Tap	6 - Wing Nut

Force Characteristics

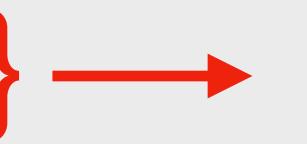
Count: Enter times/cycle

Magnitude: Enter lbs

Duration: Enter sec

Create Task

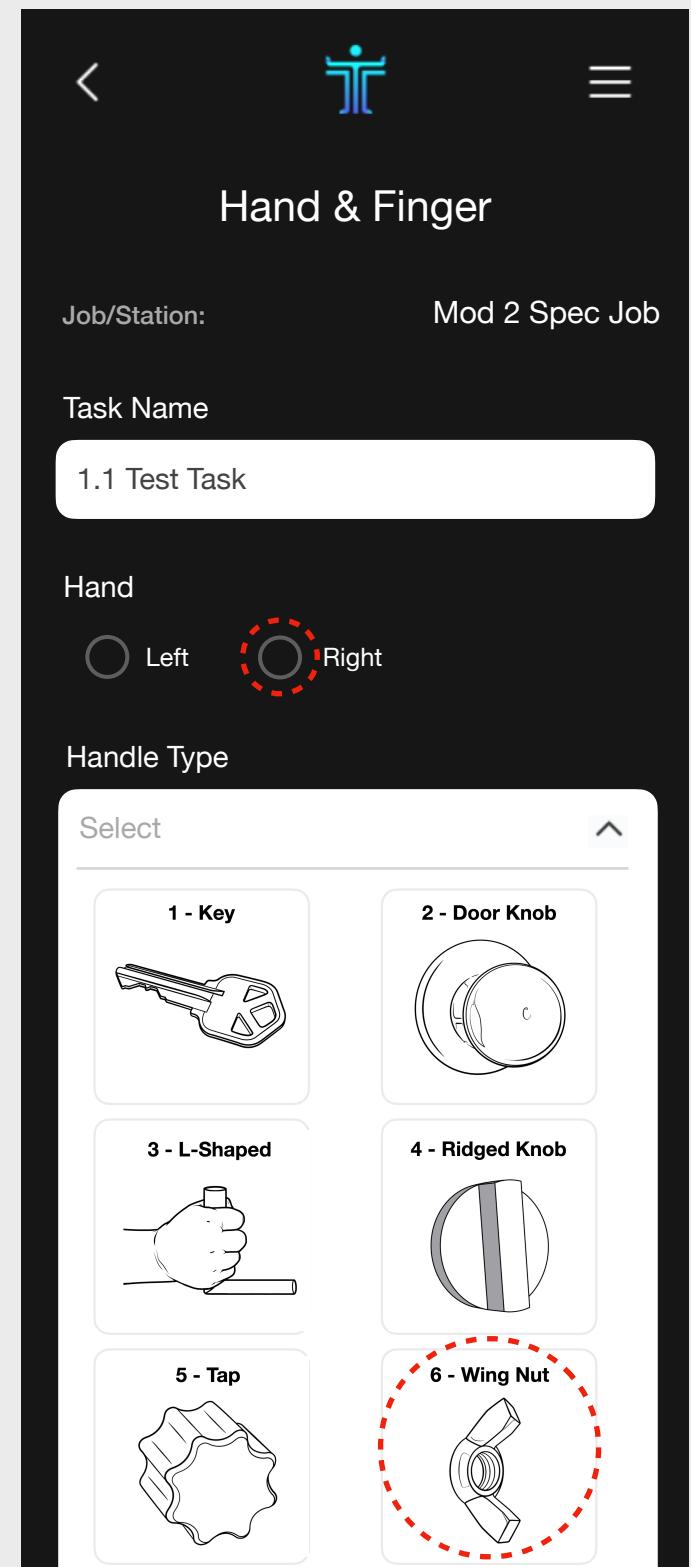
For **5 - Tap**, there are no Modifiers, so the **Handle Type** alone determines the Male & Female Population Strength values used in subsequent calculations. See values below.



Handle Type	MALE		FEMALE	
	Mean	SD	Mean	SD
5 - Tap	73.20	19.91	53.37	13.28

For **5 - Tap**, the Hand (Left or Right) has no impact on Population Strength values.

Handle Type: 6 - Wing Nut



Hand & Finger

Job/Station: Mod 2 Spec Job

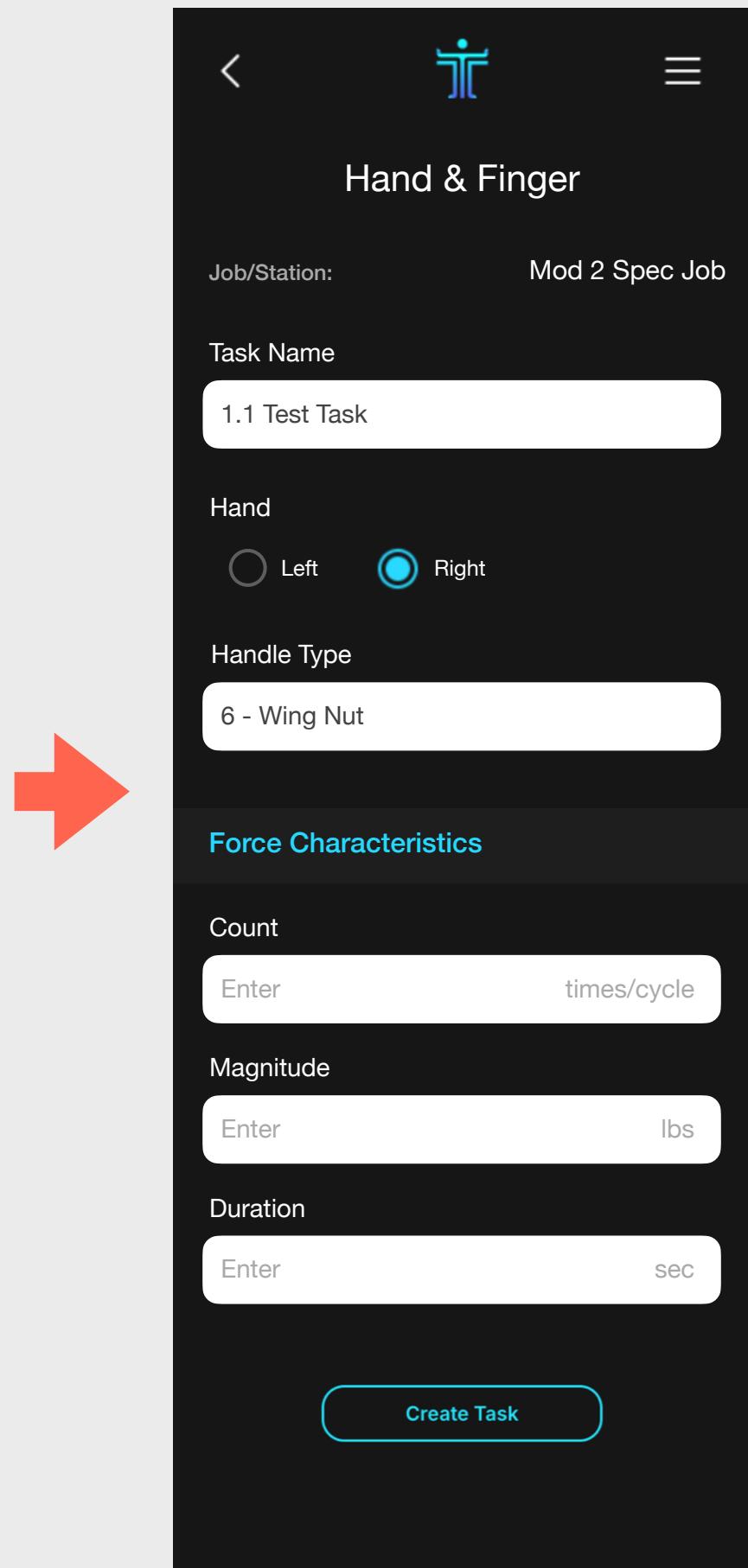
Task Name: 1.1 Test Task

Hand: Left Right

Handle Type:

Select

- 1 - Key
- 2 - Door Knob
- 3 - L-Shaped
- 4 - Ridged Knob
- 5 - Tap
- 6 - Wing Nut



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 6 - Wing Nut

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lbs

Duration: Enter sec

Create Task

For **6 - Wing Nut**, there are no Modifiers, so the **Handle Type** alone determines the Male & Female Population Strength values used in subsequent calculations. See values below.

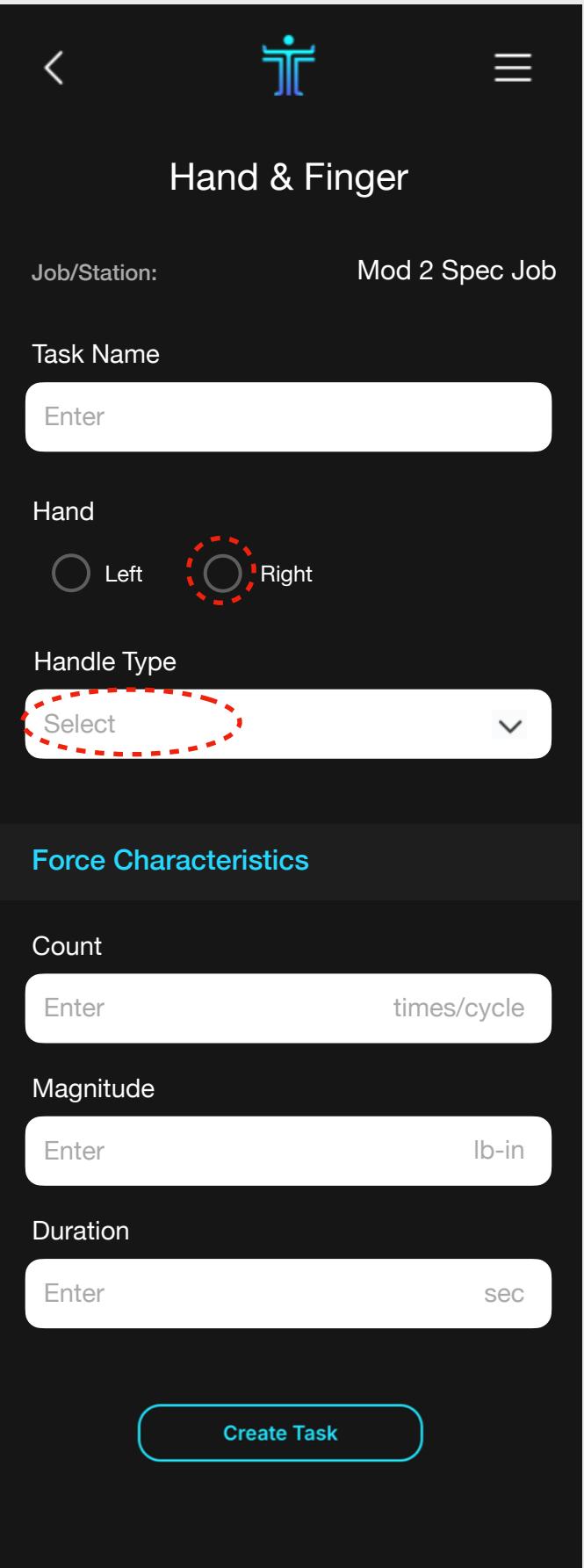


Handle Type	MALE		FEMALE	
	Mean	SD	Mean	SD
6 - Wing Nut	34.96	9.74	23.90	5.13

For **6 - Wing Nut**, the Hand (Left or Right) has no impact on Population Strength values.

Handle Type: 7 - Jar Lid

Screen 0



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: Enter

Hand: Left Right

Handle Type: Select

Force Characteristics

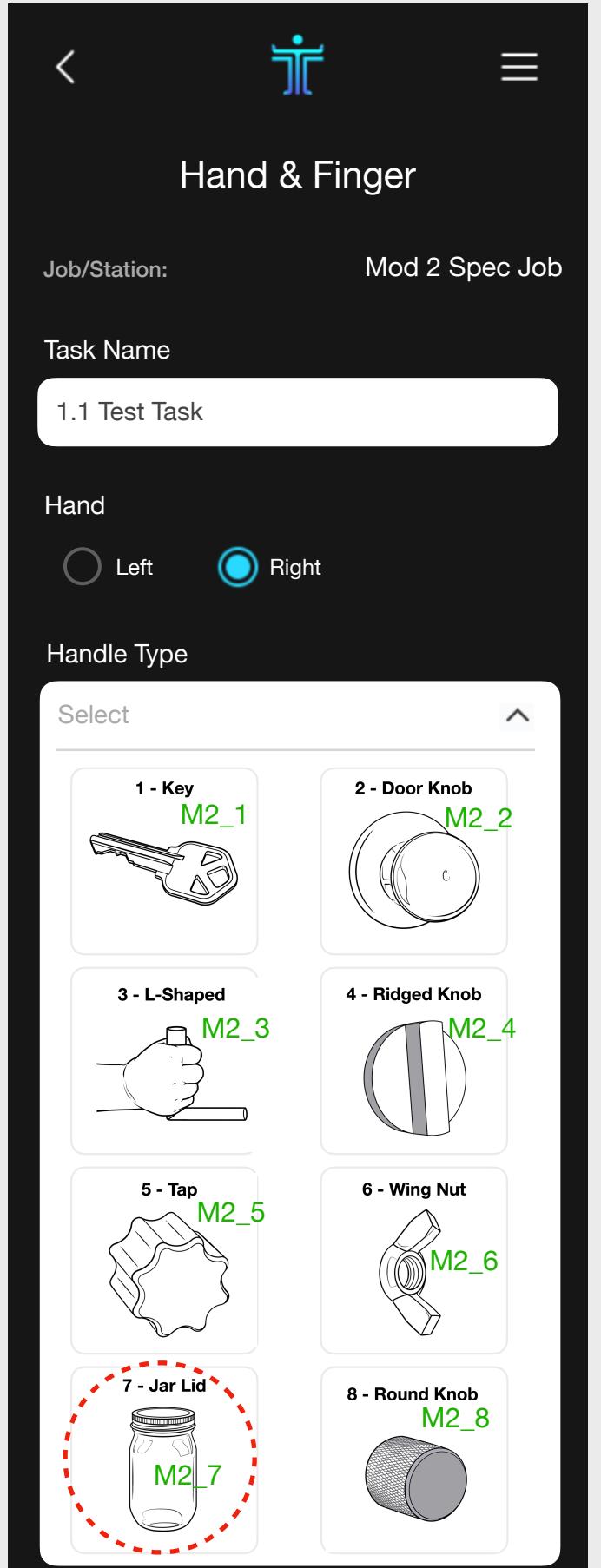
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 1



Hand & Finger

Job/Station: Mod 2 Spec Job

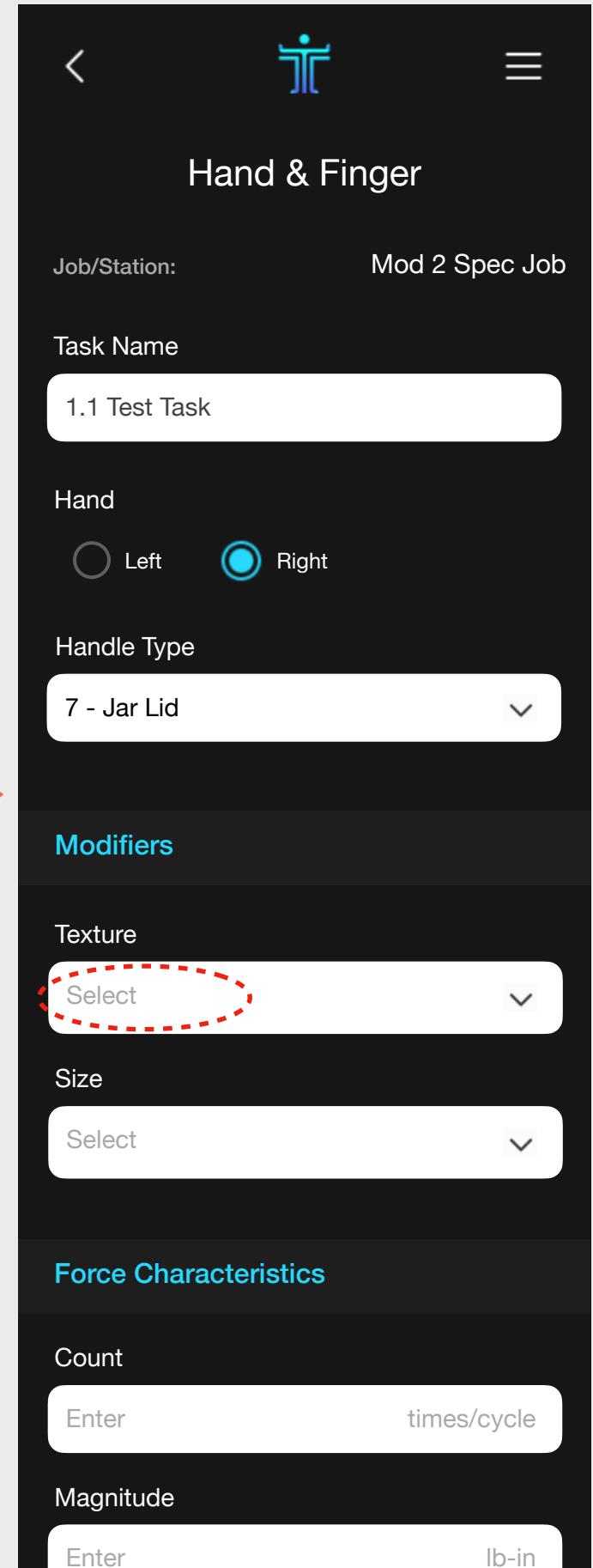
Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: Select

1 - Key M2_1
2 - Door Knob M2_2
3 - L-Shaped M2_3
4 - Ridged Knob M2_4
5 - Tap M2_5
6 - Wing Nut M2_6
7 - Jar Lid M2_7
8 - Round Knob M2_8

Screen 2



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 7 - Jar Lid

Modifiers

Texture: Select

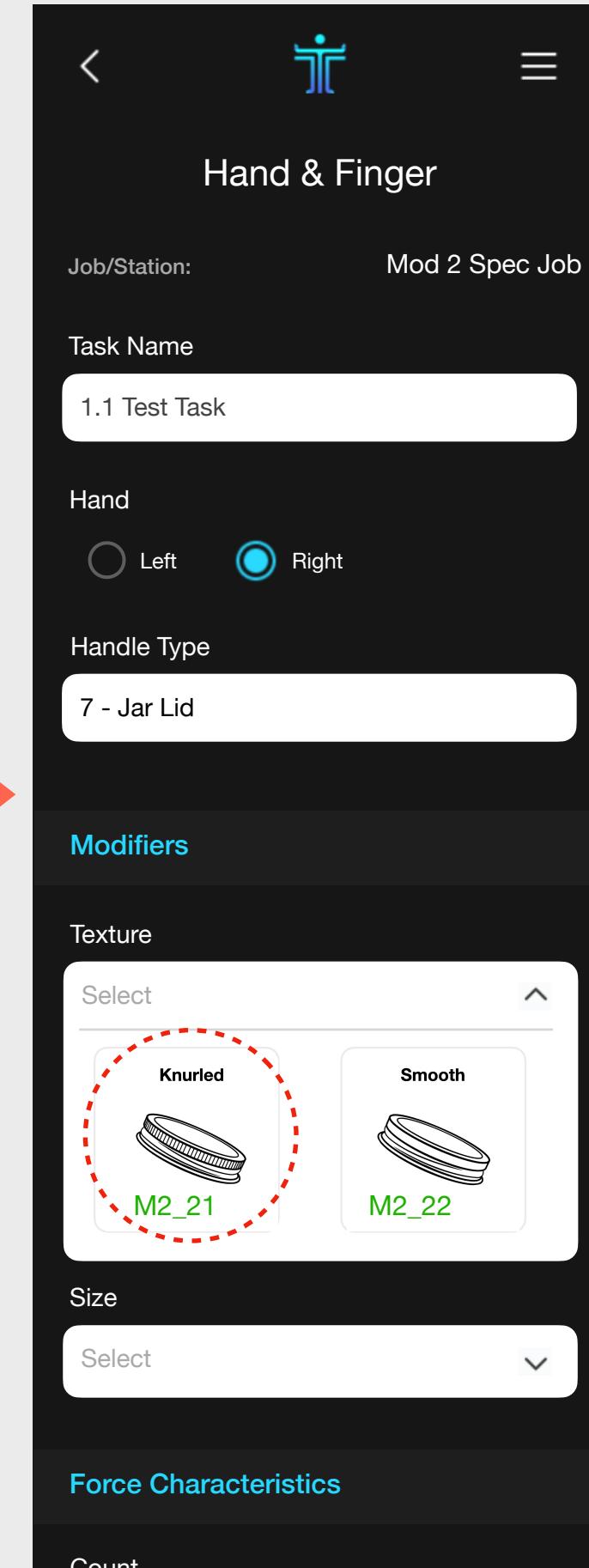
Size: Select

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Screen 3



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 7 - Jar Lid

Modifiers

Texture: Select

Knurled
Smooth

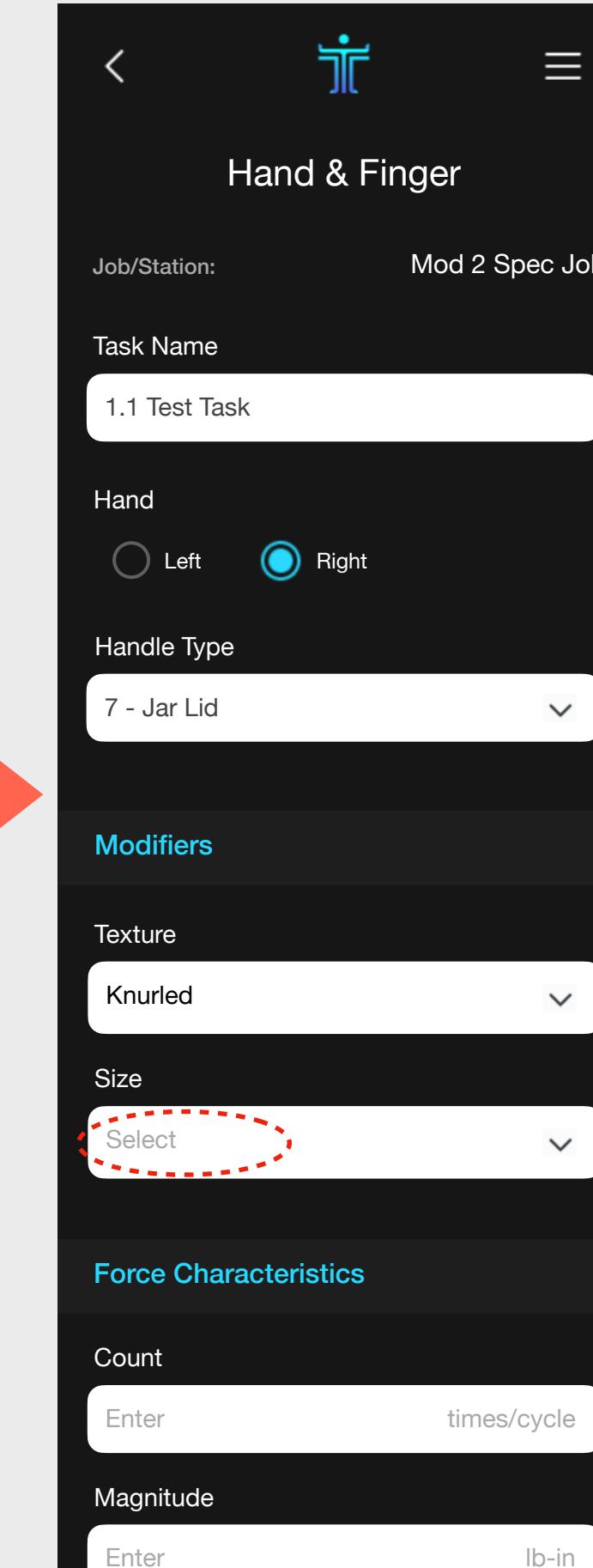
Size: Select

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Screen 4



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 7 - Jar Lid

Modifiers

Texture: Knurled

Size: Select

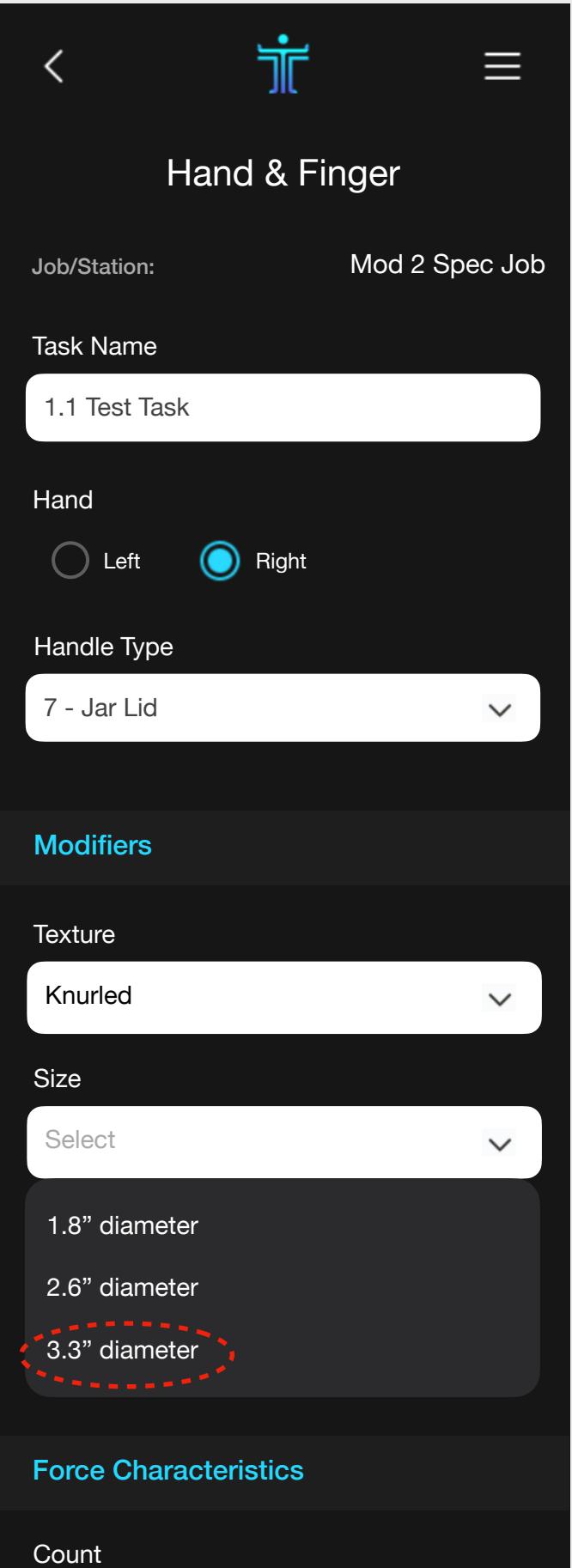
3.3" diameter
1.8" diameter
2.6" diameter

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Screen 5



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 7 - Jar Lid

Modifiers

Texture: Knurled

Size: Select

3.3" diameter
1.8" diameter
2.6" diameter

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

In Screen 1, the user makes entries/selections for **Task Name**, **Hand**, and **Handle Type**.

Handle Type: 7 - Jar Lid ... continued

For **7 - Jar Lid**, the Modifiers **Texture** and **Size** determine the Male & Female Population Strength values used in subsequent calculations. See selections and subsequent values below.

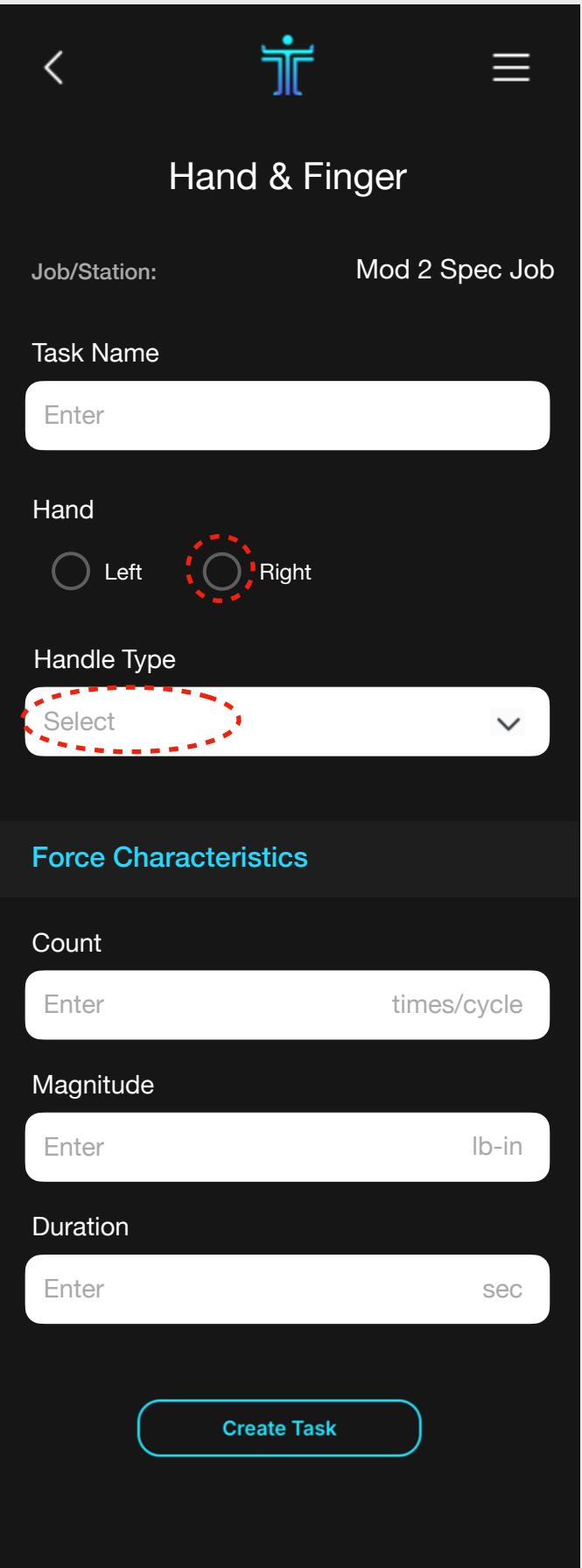
In this example, entries/selections are “Knurled” for Texture and “3.3” diameter” for Size.

Handle Type	Texture	Size	MALE		FEMALE	
			Mean	SD	Mean	SD
7 - Jar Lid	Knurled	1.8" diameter	39.83	11.33	31.95	10.18
		2.6" diameter	58.68	13.28	42.13	12.39
		3.3" diameter	74.61	15.84	52.48	13.45
	Smooth	1.8" diameter	32.66	10.09	28.59	10.09
		2.6" diameter	50.01	10.80	38.85	12.39
		3.3" diameter	67.27	15.22	51.51	16.73

For **7 - Jar Lid**, the Hand (Left or Right) has no impact on Population Strength values.

Handle Type: 8 - Round Knob

Screen 0



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: Enter

Hand: Left Right

Handle Type: Select

Force Characteristics

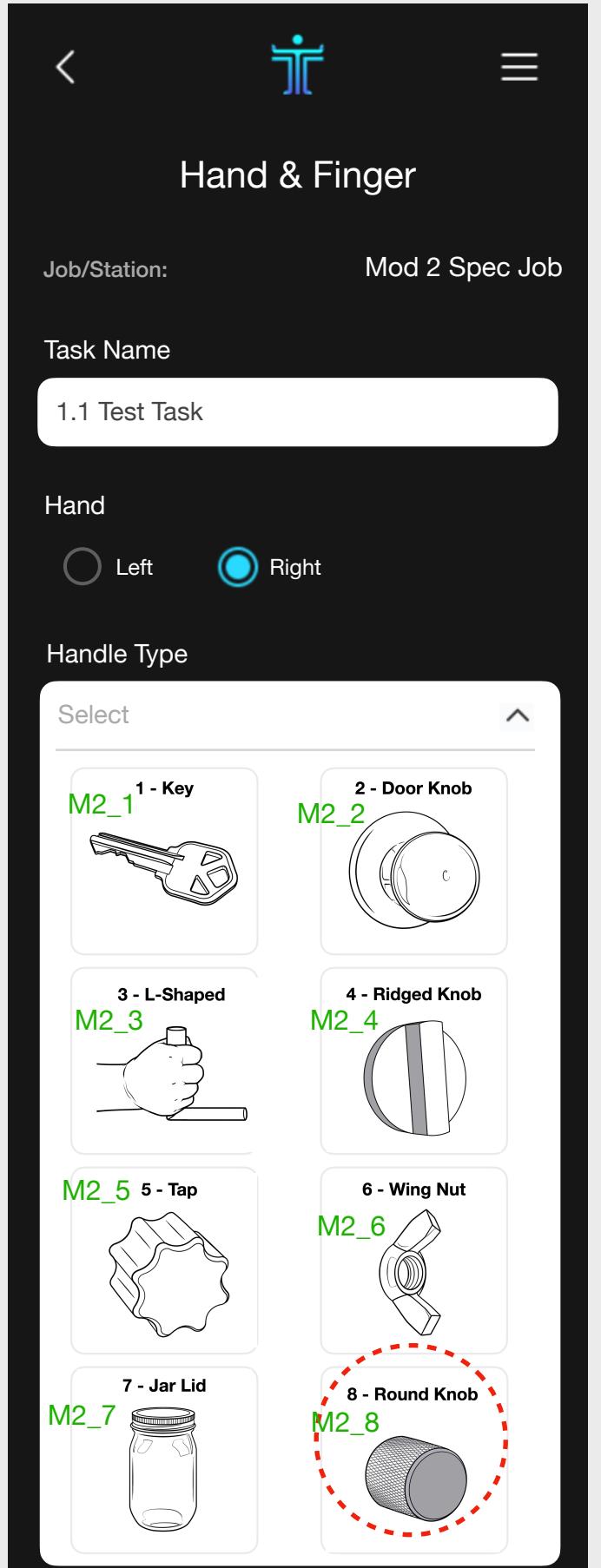
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 1



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: Select

Modifiers

Texture: Select

Size: Select

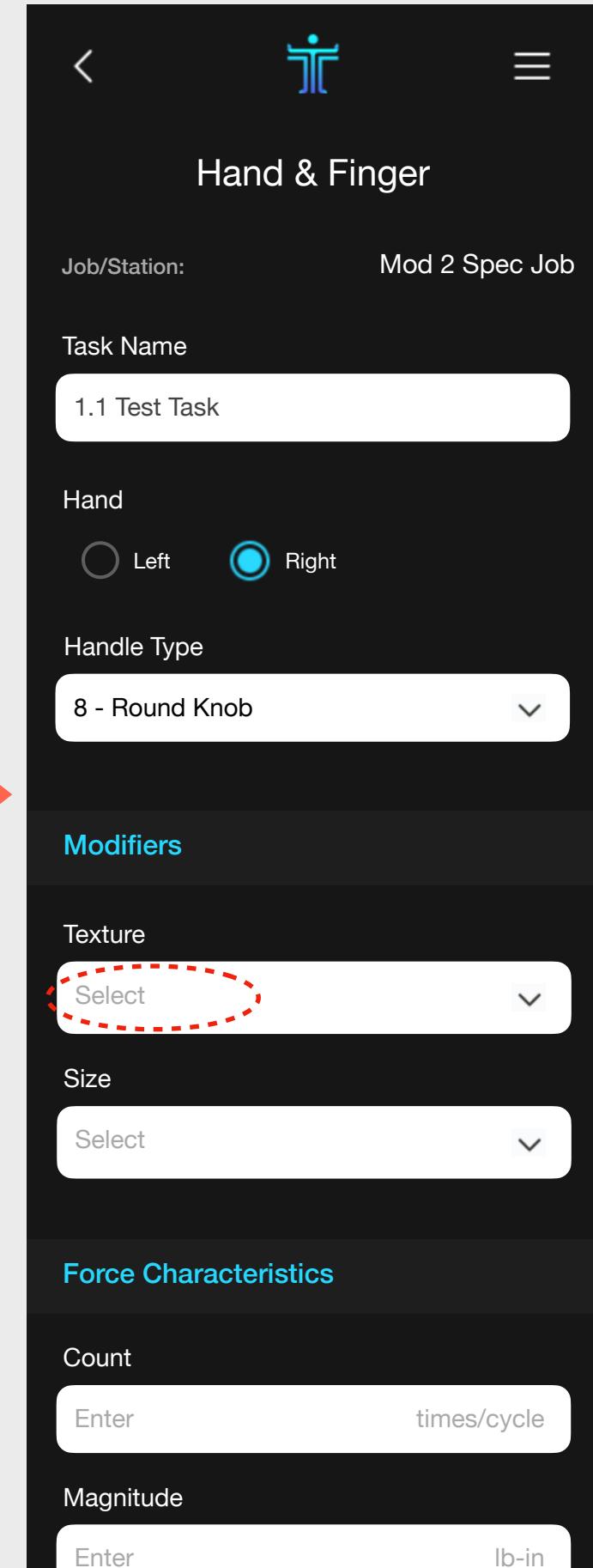
Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Handle Type: 8 - Round Knob

Screen 2



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 8 - Round Knob

Modifiers

Texture: Select

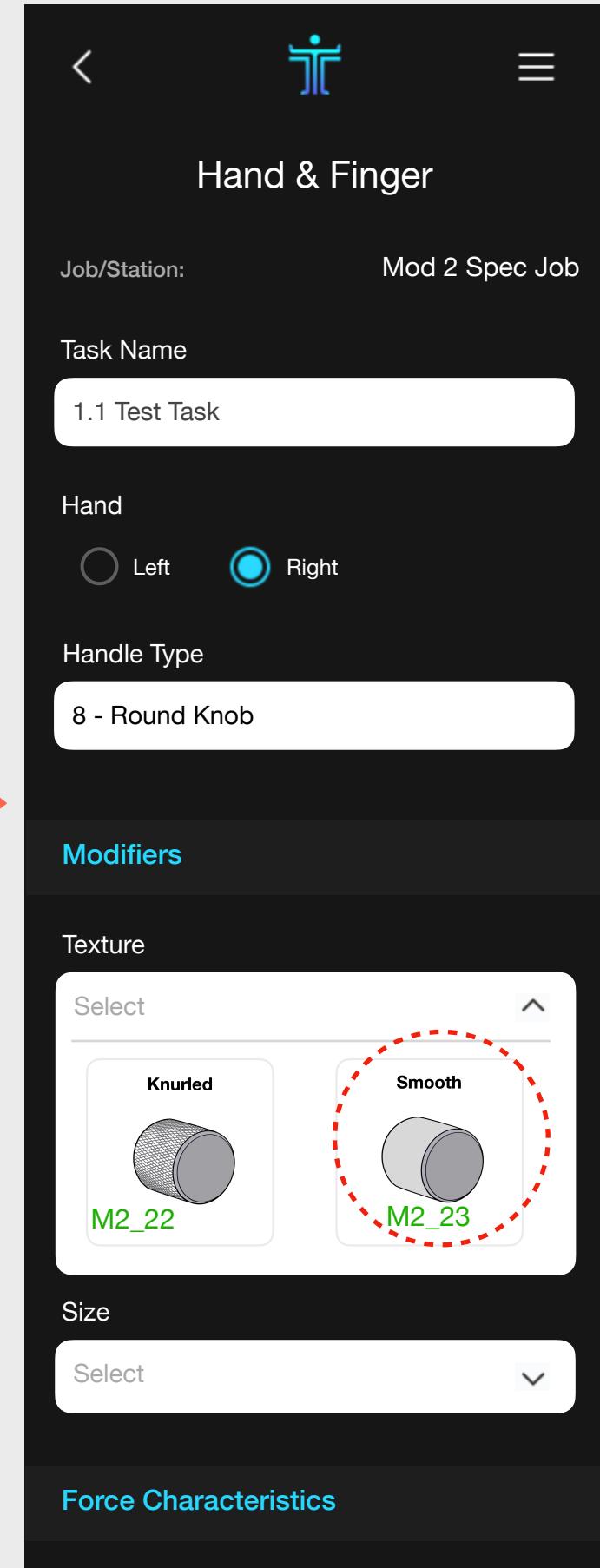
Size: Select

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Screen 3



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 8 - Round Knob

Modifiers

Texture: Select

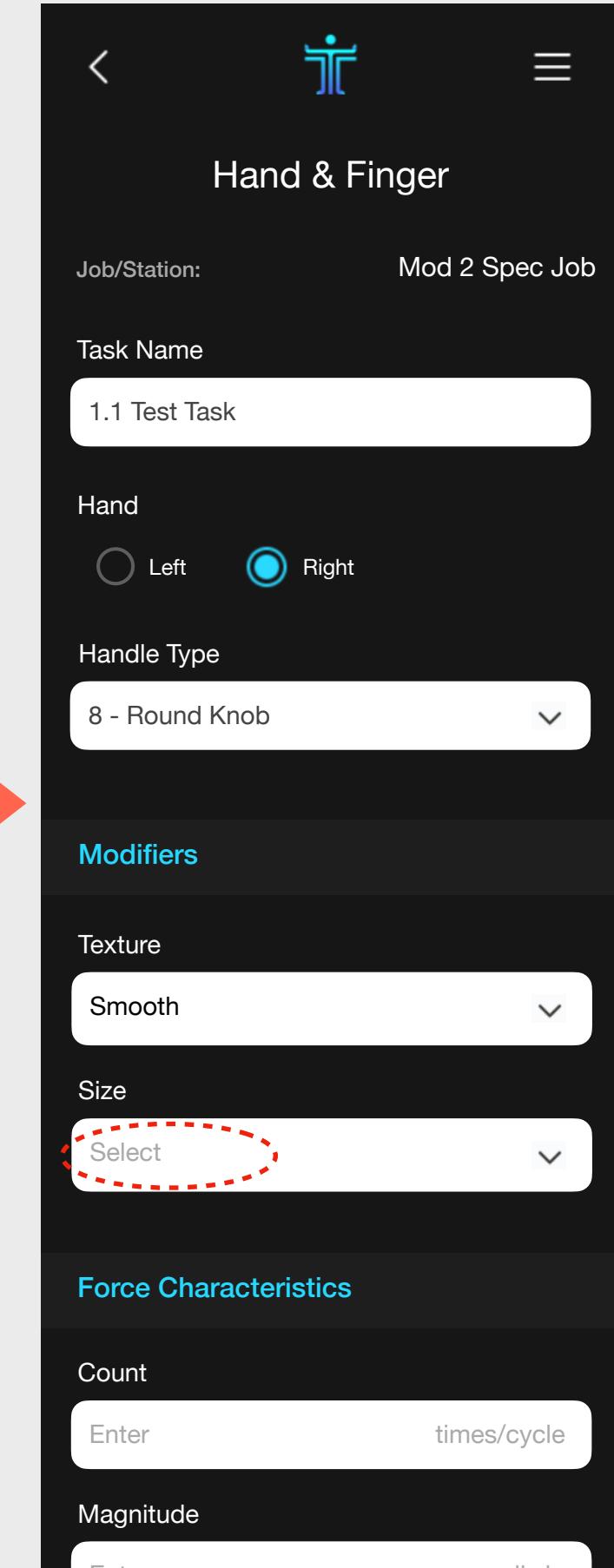
Size: Select

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Screen 4



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 8 - Round Knob

Modifiers

Texture: Smooth

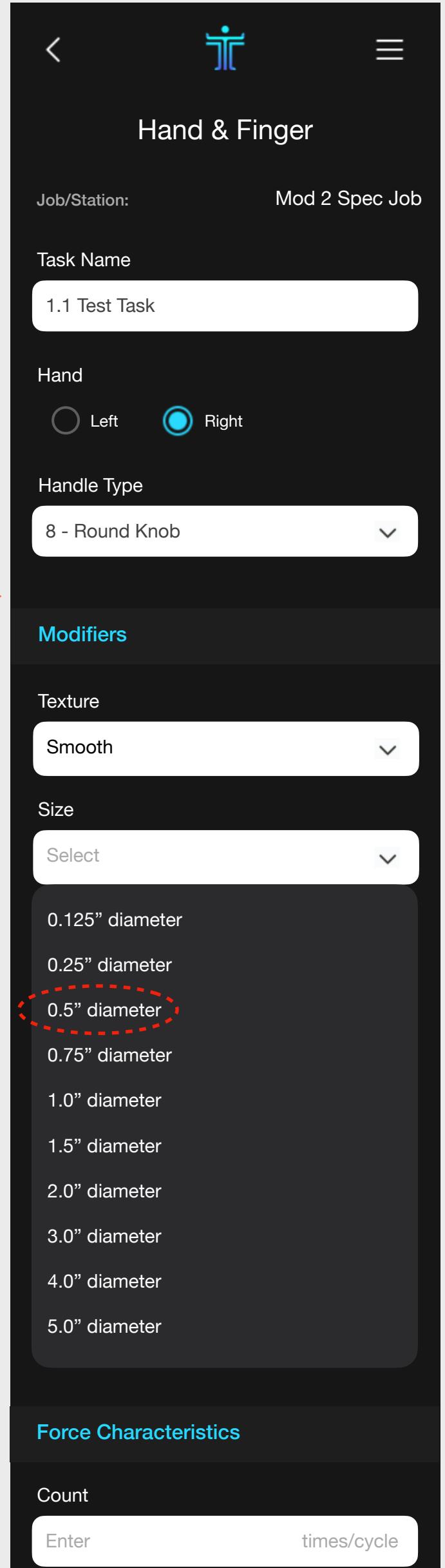
Size: Select

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Screen 5



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 8 - Round Knob

Modifiers

Texture: Smooth

Size: Select

Force Characteristics

Count: Enter times/cycle

In Screen 1, the user makes entries/selections for **Task Name**, **Hand**, and **Handle Type**.

Then, Screen 2 displays the **Modifiers** for **8 - Round Knob**. Similar to **Force Type** in **Mod 1 - Hand & Finger**, the **Handle Type** determines the **Modifiers** that are displayed.

Handle Type: 8 - Round Knob ... continued

For **8 - Round Knob**, the Modifiers **Texture** and **Size** determine the Male & Female Population Strength values used in subsequent calculations. See selections and subsequent values below.

In this example, entries/selections are “Smooth” for Texture and “0.5” diameter for Size.

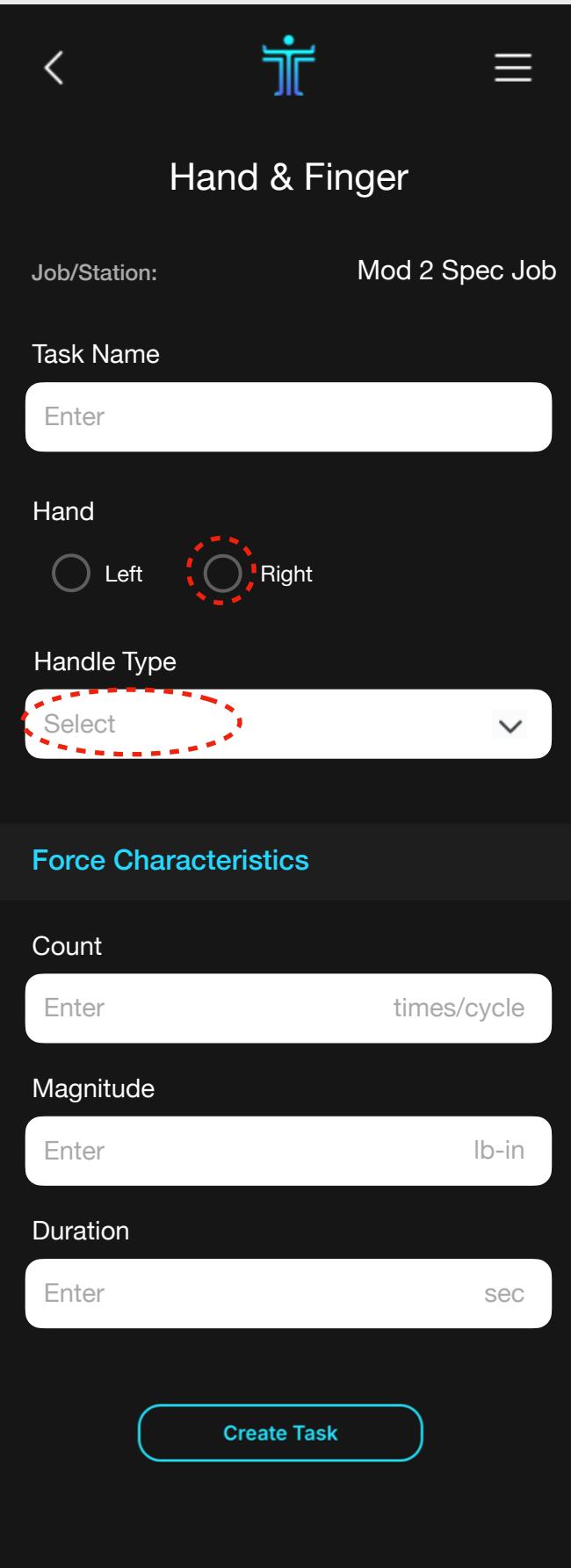
Handle Type	Texture	Size	MALE		FEMALE	
			Mean	SD	Mean	SD
8 - Round Knob	Knurled	0.125" diameter	0.57	0.19	0.38	0.13
		0.25" diameter	1.22	0.34	0.81	0.22
		0.5" diameter	1.99	0.84	1.33	0.56
		0.75" diameter	5.81	1.98	3.88	1.32
		1.0" diameter	7.25	2.22	4.82	1.48
		1.5" diameter	9.17	2.35	6.11	1.56
		2.0" diameter	13.13	3.05	8.74	2.04
		3.0" diameter	29.85	8.53	19.88	5.68
		4.0" diameter	43.62	10.87	29.05	7.24
		5.0" diameter	60.82	16.42	40.51	10.93
8 - Round Knob	Smooth	0.125" diameter	0.19	0.10	0.12	0.06
		0.25" diameter	0.52	0.20	0.35	0.13
		0.5" diameter	1.36	0.48	0.90	0.32
		0.75" diameter	2.49	0.66	1.66	0.44
		1.0" diameter	3.69	1.33	2.46	0.89
		1.5" diameter	6.09	1.65	4.05	1.10
		2.0" diameter	9.25	2.92	6.16	1.95
		3.0" diameter	16.69	5.07	11.12	3.38
		4.0" diameter	28.38	8.45	18.91	5.63
		5.0" diameter	44.77	14.11	29.82	9.40

For **8 - Round Knob**, the Hand (Left or Right) has no impact on Population Strength values.

Handle Type: 9 - Regular Screwdriver for Right Hand

Note that in Screen 3, the **Forearm Posture** images represent/depict the **Right Hand** - hence they are named M2_24R, M2_5R, and M2_26R with the “R” in the image filename being for “Right”.

Screen 0



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: Enter

Hand: Left Right

Handle Type: Select

Force Characteristics

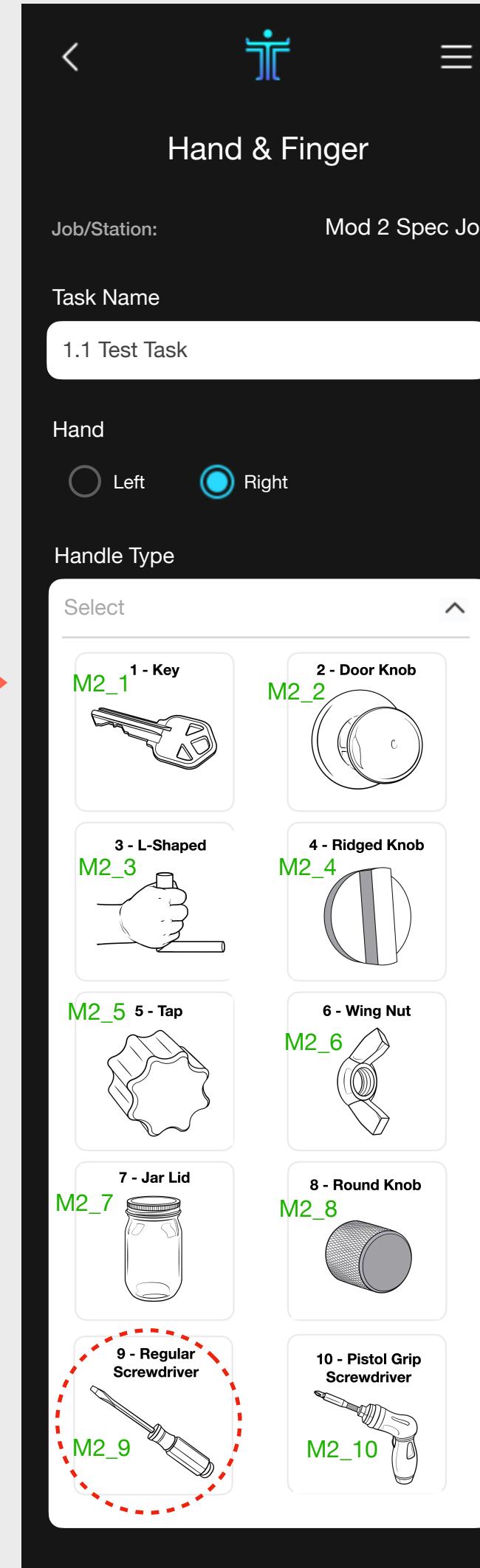
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 1



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: Select

9 - Regular Screwdriver

Modifiers

Forearm Posture: Select

Turn Direction: Select

Force Characteristics

Count: Enter times/cycle

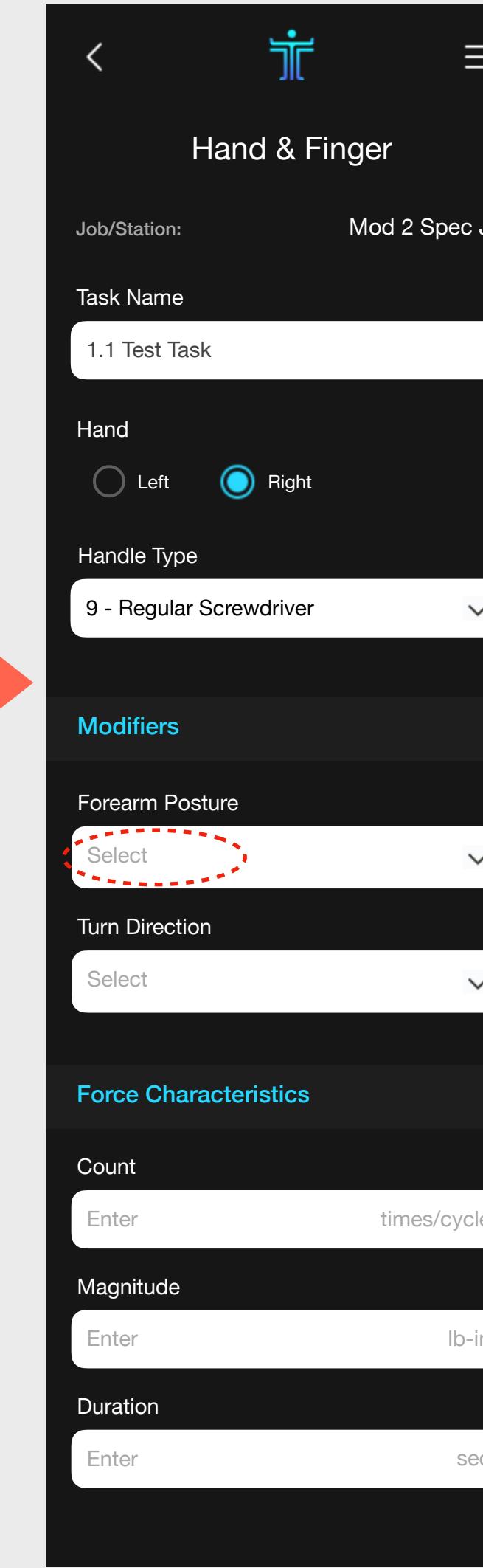
Magnitude: Enter lb-in

Duration: Enter sec

9 - Regular Screwdriver

M2_9

Screen 2



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 9 - Regular Screwdriver

Modifiers

Forearm Posture: Select

Turn Direction: Select

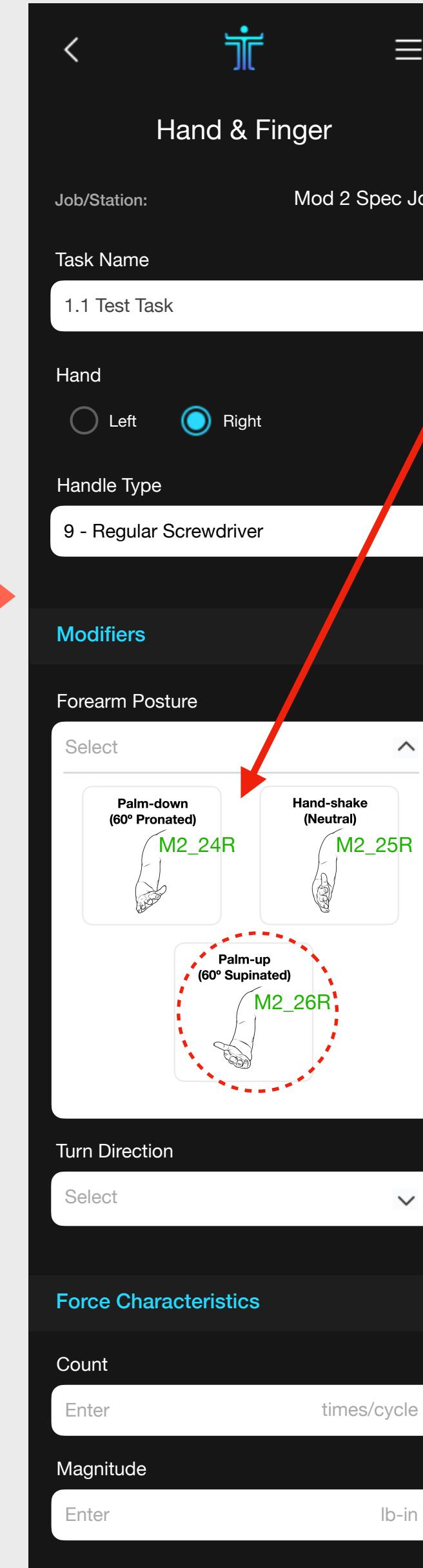
Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Screen 3



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 9 - Regular Screwdriver

Modifiers

Forearm Posture: Select

Palm-down (60° Pronated) M2_24R

Hand-shake (Neutral) M2_25R

Palm-up (60° Supinated) M2_26R

Turn Direction: Select

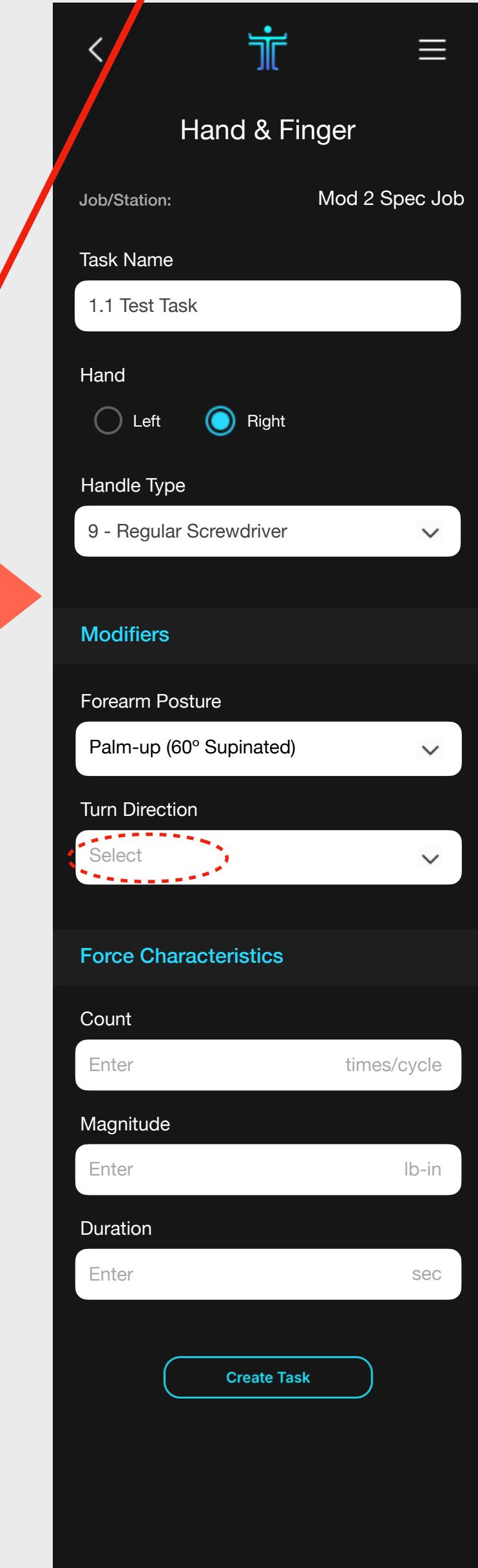
Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Screen 4



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 9 - Regular Screwdriver

Modifiers

Forearm Posture: Palm-up (60° Supinated)

Turn Direction: Select

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

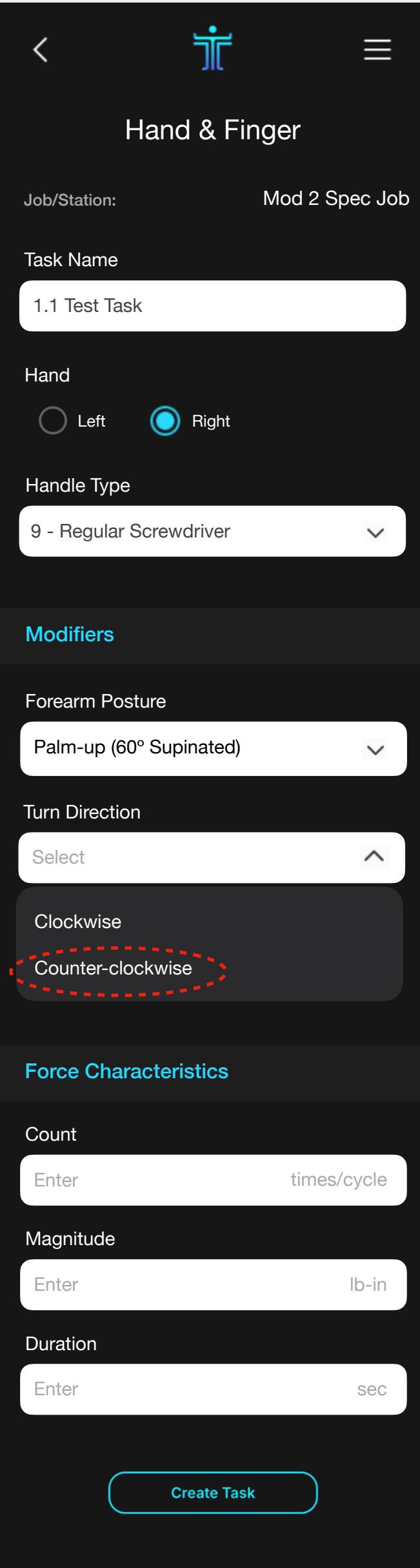
Duration: Enter sec

Clockwise

Counter-clockwise

Create Task

Screen 5



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 9 - Regular Screwdriver

Modifiers

Forearm Posture: Palm-up (60° Supinated)

Turn Direction: Select

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

In Screen 1, the user makes entries/selections for **Task Name**, **Hand**, and **Handle Type**.

Then, Screen 2 displays the **Modifiers** for **9 - Regular Screwdriver**.

Handle Type: 9 - Regular Screwdriver for **Right Hand** ... continued

For **9 - Regular Screwdriver**, the Modifiers **Hand**, **Turn Direction**, and **Forearm Posture** determine the Male & Female Population Strength values used in subsequent calculations. See selections and subsequent values below.

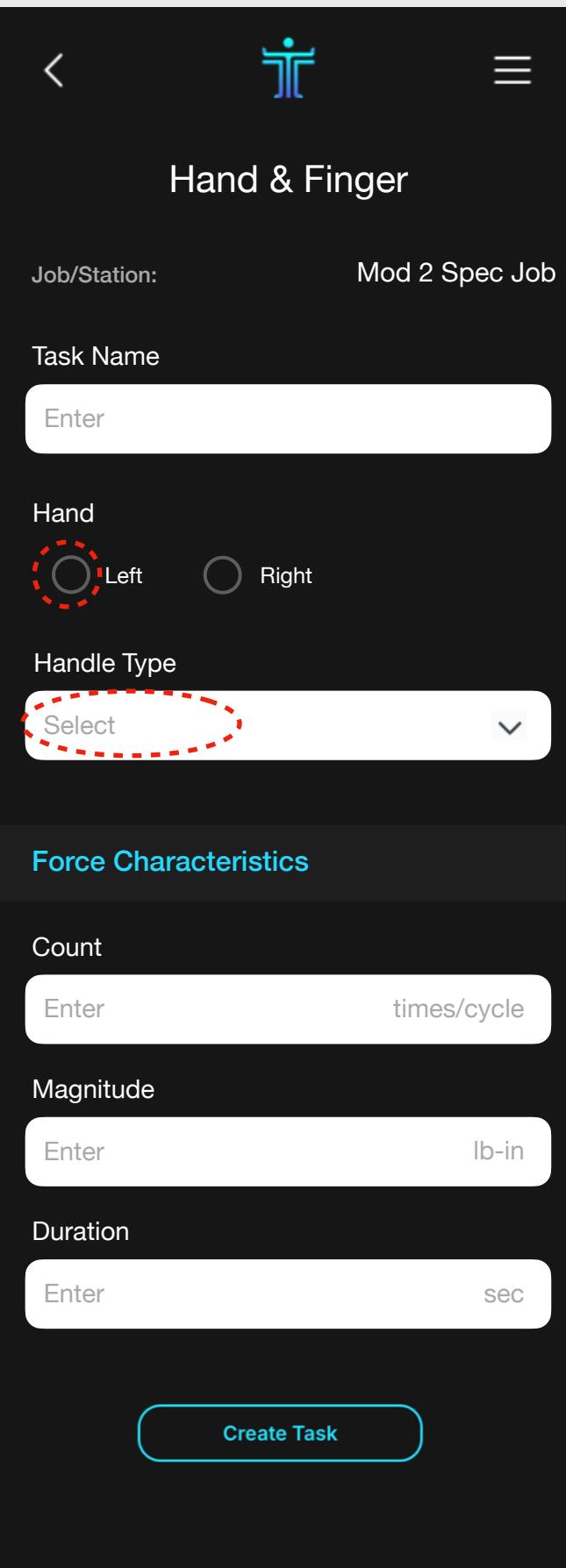
In this example, entries/selections are “Right” for Hand, “Counter-clockwise” for Turn Direction, and “60° Supinated” for Forearm Posture.

Handle Type	Hand	Turn Direction	Forearm Posture	MALE		FEMALE	
				Mean	SD	Mean	SD
Regular Screwdriver	Right	Counter-clockwise	Palm-down (60° Pronated)	18.19	5.64	12.00	3.72
			Hand-shake (Neutral)	35.03	6.46	23.12	4.26
			Palm-up (60° Supinated)	44.26	9.14	29.21	6.03
	Left	Clockwise	Palm-down (60° Pronated)	46.19	13.08	30.49	8.63
			Hand-shake (Neutral)	44.94	9.53	29.66	6.29
			Palm-up (60° Supinated)	36.52	12.15	24.10	8.02
	Left	Counter-clockwise	Palm-down (60° Pronated)	18.19	5.64	12.00	3.72
			Hand-shake (Neutral)	35.03	6.46	23.12	4.26
			Palm-up (60° Supinated)	44.26	9.14	29.21	6.03
	Left	Clockwise	Palm-down (60° Pronated)	46.19	13.08	30.49	8.63
			Hand-shake (Neutral)	44.94	9.53	29.66	6.29
			Palm-up (60° Supinated)	36.52	12.15	24.10	8.02

Handle Type: 9 - Regular Screwdriver for Left Hand

Note that in Screen 3, the **Forearm Posture** images represent/depict the **Left Hand** - hence they are named M2_24L, M2_5L, and M2_26L with the "L" in the image filename being for "Left".

Screen 0



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: Enter

Hand: Left Right

Handle Type: Select

Force Characteristics

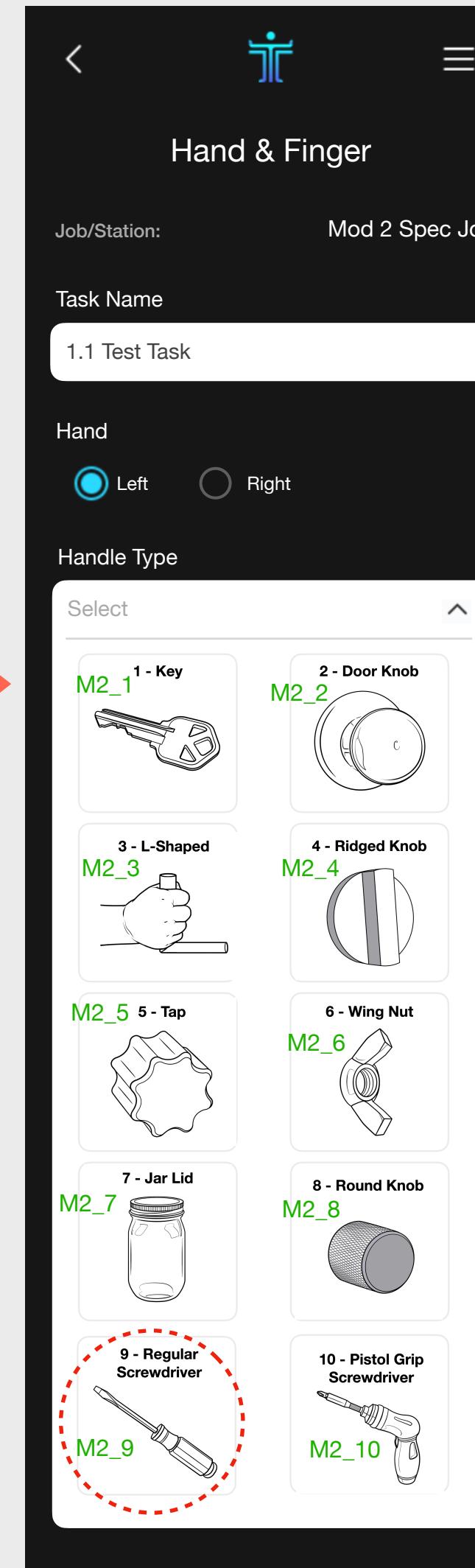
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 1



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: Select

9 - Regular Screwdriver

Modifiers

Forearm Posture: Select

Turn Direction: Select

Force Characteristics

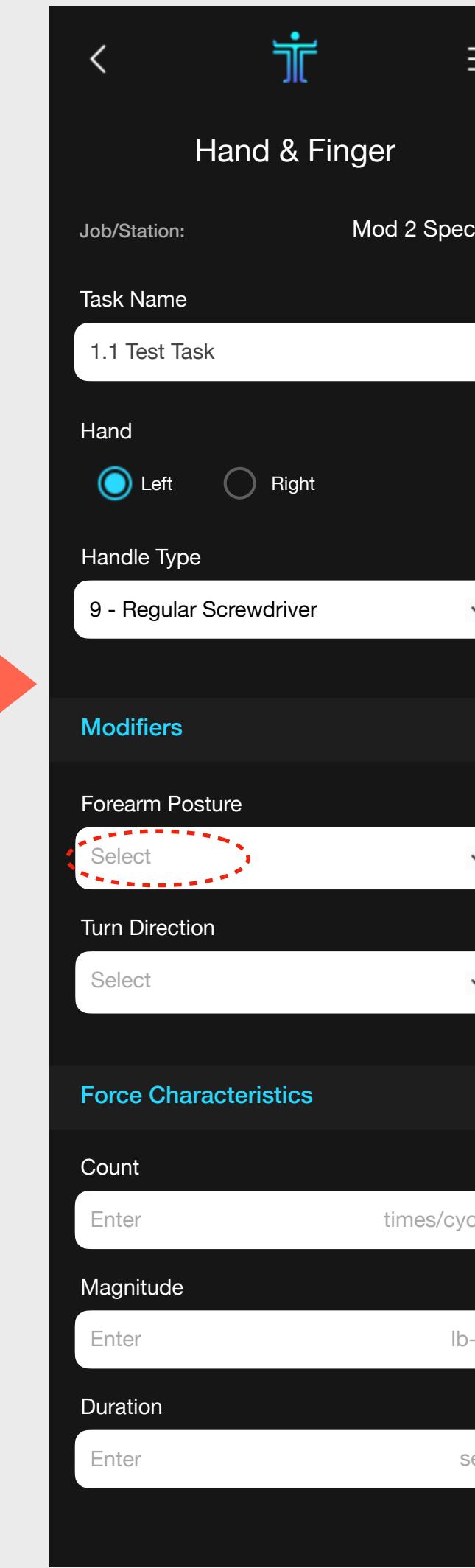
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 2



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 9 - Regular Screwdriver

Modifiers

Forearm Posture: Select

Turn Direction: Select

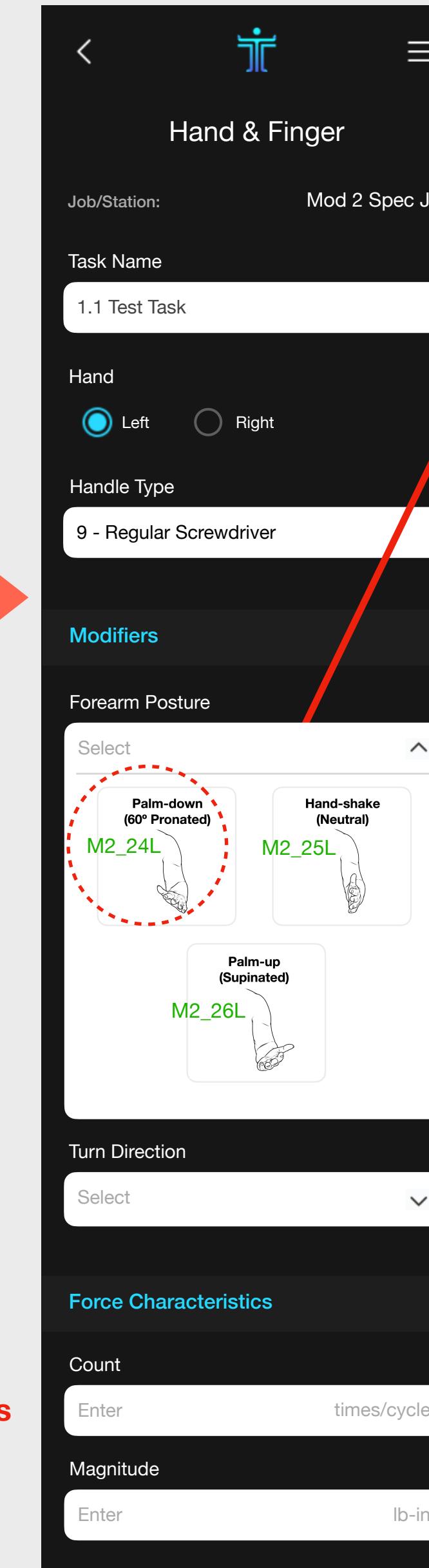
Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Screen 3



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 9 - Regular Screwdriver

Modifiers

Forearm Posture: Select

M2_24L

M2_25L

M2_26L

Turn Direction: Select

Force Characteristics

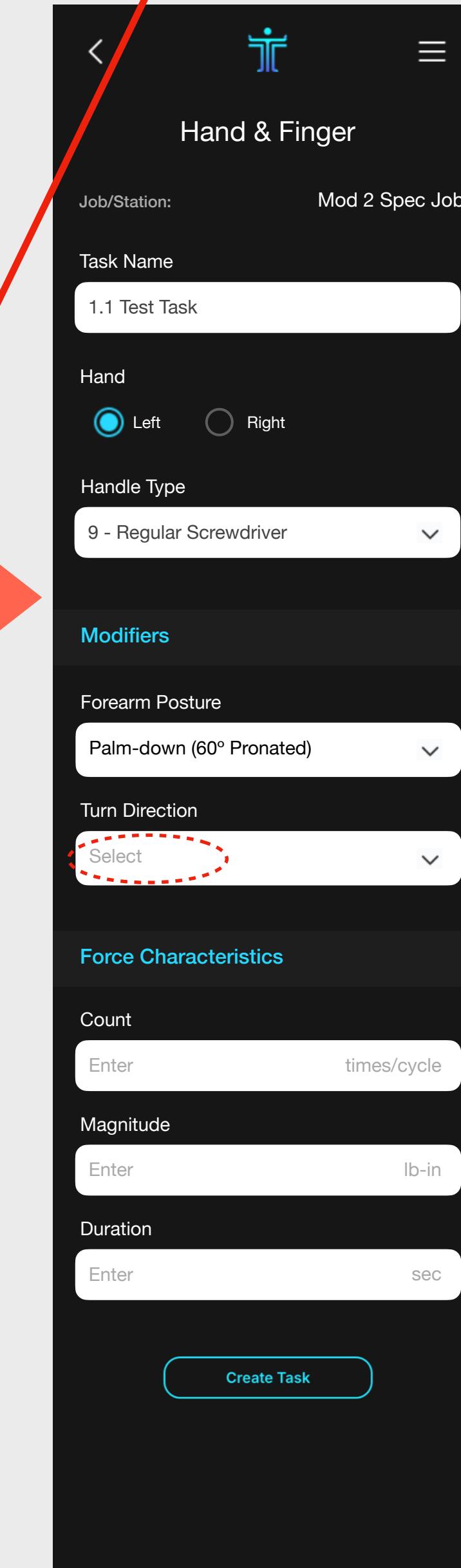
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 4



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 9 - Regular Screwdriver

Modifiers

Forearm Posture: Palm-down (60° Pronated)

Turn Direction: Select

Force Characteristics

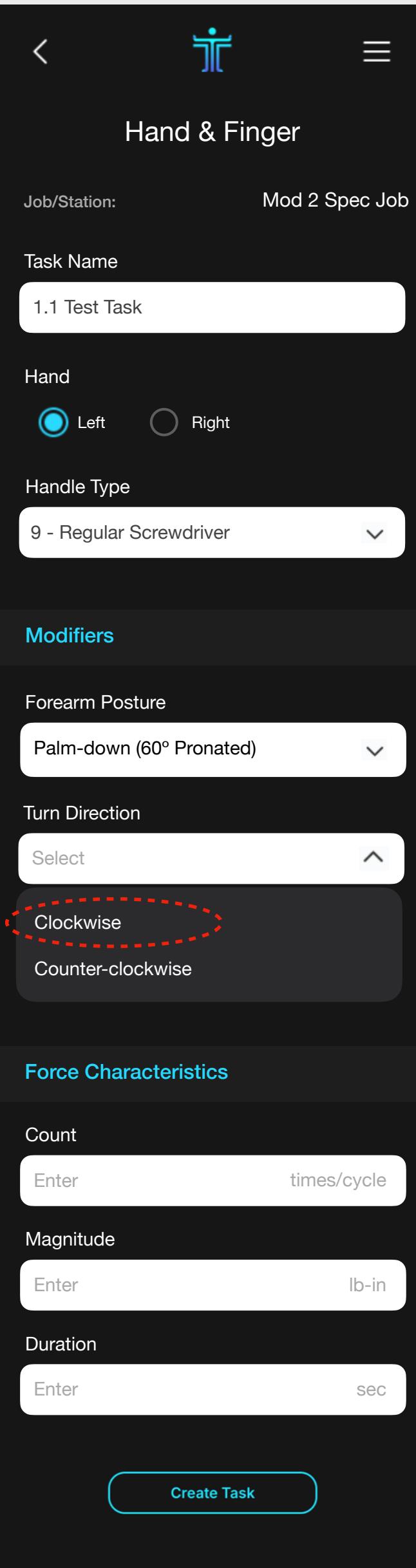
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 5



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 9 - Regular Screwdriver

Modifiers

Forearm Posture: Palm-down (60° Pronated)

Turn Direction: Select

Clockwise

Counter-clockwise

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

In Screen 1, the user makes entries/selections for **Task Name**, **Hand**, and **Handle Type**.

Then, Screen 2 displays the **Modifiers** for **9 - Regular Screwdriver**.

Handle Type: 9 - Regular Screwdriver for **Left** Hand ... continued

For **9 - Regular Screwdriver**, the Modifiers **Hand**, **Turn Direction**, and **Forearm Posture** determine the Male & Female Population Strength values used in subsequent calculations. See selections and subsequent values below.

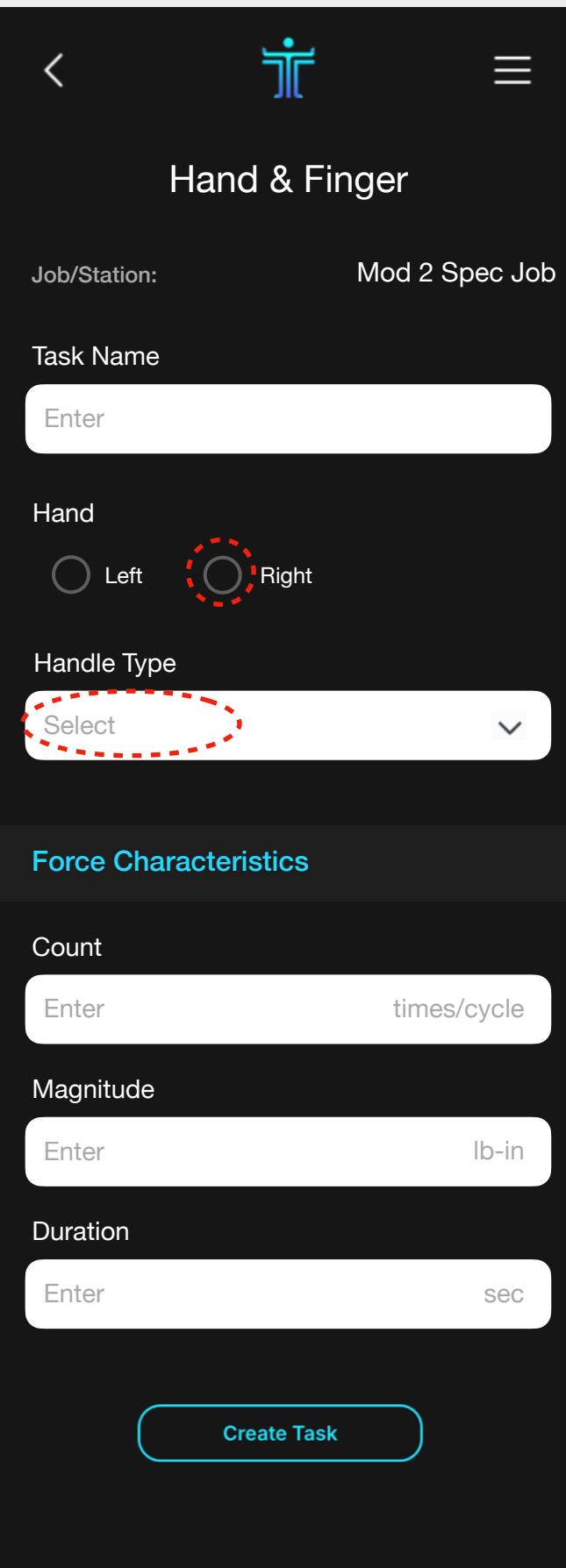
In this example, entries/selections are “Left Hand” for Hand, “Clockwise” for Turn Direction, and “60° Pronation” for Forearm Posture.

Handle Type	Hand	Turn Direction	Forearm Posture	MALE		FEMALE	
				Mean	SD	Mean	SD
Regular Screwdriver	Right	Counter-clockwise	Palm-down (60° Pronated)	18.19	5.64	12.00	3.72
			Hand-shake (Neutral)	35.03	6.46	23.12	4.26
			Palm-up (60° Supinated)	44.26	9.14	29.21	6.03
	Clockwise	Clockwise	Palm-down (60° Pronated)	46.19	13.08	30.49	8.63
			Hand-shake (Neutral)	44.94	9.53	29.66	6.29
			Palm-up (60° Supinated)	36.52	12.15	24.10	8.02
	Left	Clockwise	Palm-down (60° Pronated)	18.19	5.64	12.00	3.72
			Hand-shake (Neutral)	35.03	6.46	23.12	4.26
			Palm-up (60° Supinated)	44.26	9.14	29.21	6.03
		Counter-clockwise	Palm-down (60° Pronated)	46.19	13.08	30.49	8.63
			Hand-shake (Neutral)	44.94	9.53	29.66	6.29
			Palm-up (60° Supinated)	36.52	12.15	24.10	8.02

Handle Type: 10 - Pistol Grip Screwdriver for Right Hand

Note that in Screen 3, the **Forearm Posture** images represent/depict the **Right Hand** - hence they are named M2_24R, M2_25R, and M2_26R with the "R" in the image filename being for "Right".

Screen 0



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: Enter

Hand: Left Right

Handle Type: Select

Force Characteristics

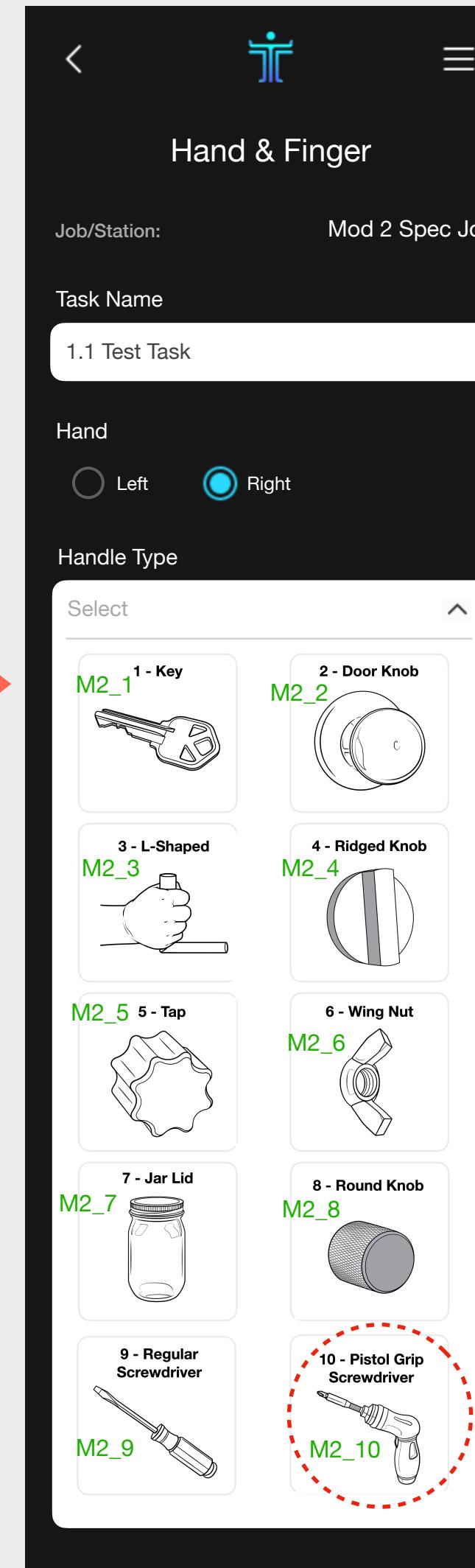
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 1



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 10 - Pistol Grip Screwdriver

Force Characteristics

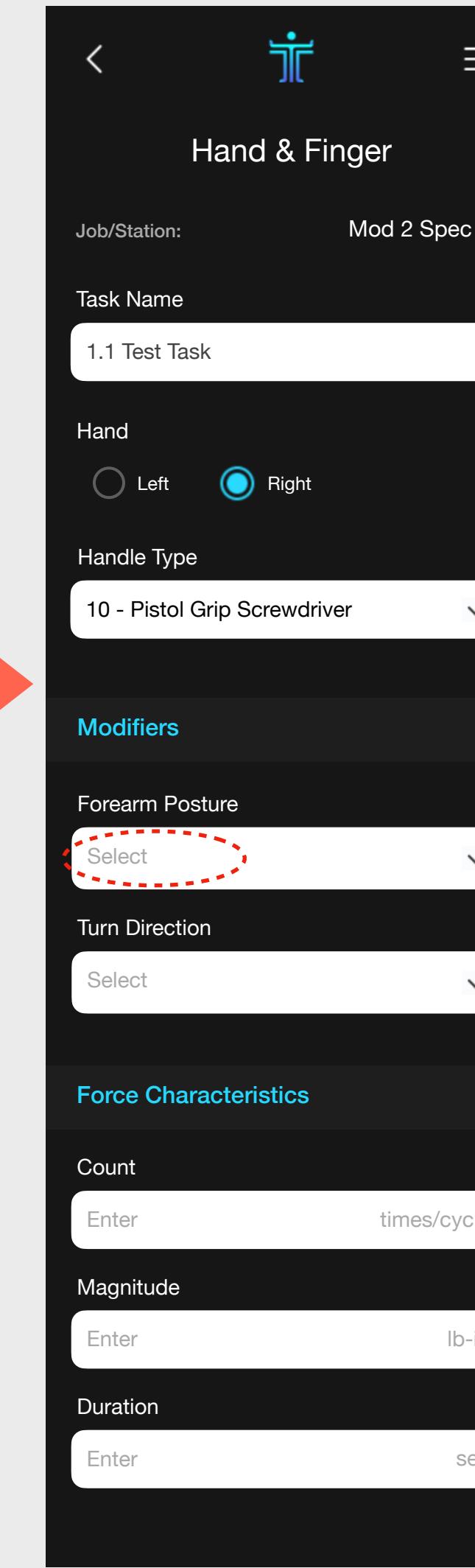
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 2



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 10 - Pistol Grip Screwdriver

Modifiers

Forearm Posture: Select

Turn Direction: Select

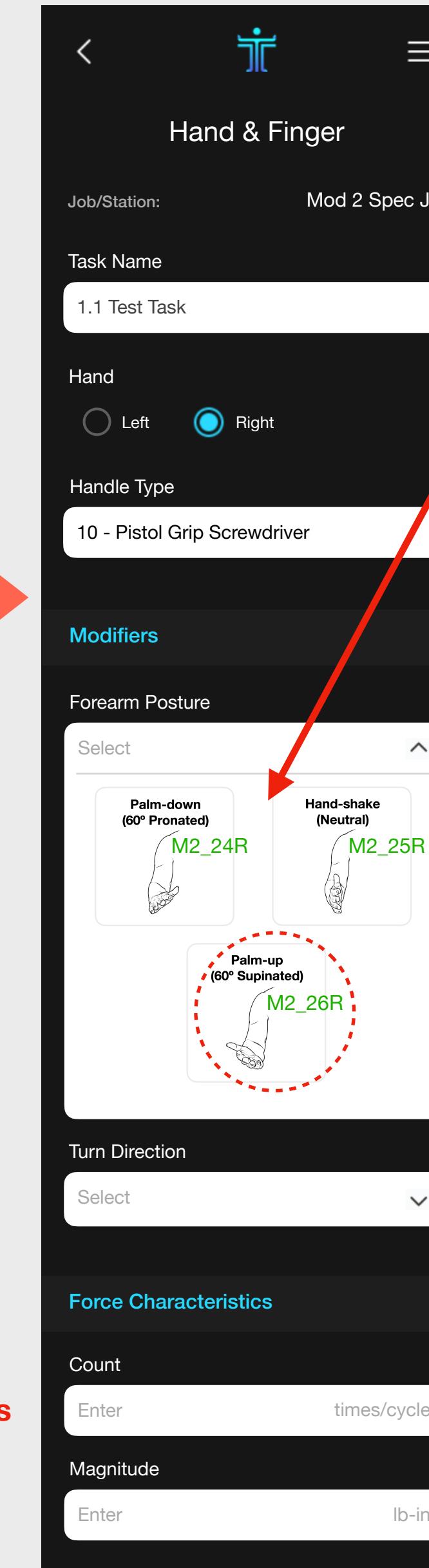
Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Screen 3



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 10 - Pistol Grip Screwdriver

Modifiers

Forearm Posture: Select

Palm-down (60° Pronated) M2_24R

Hand-shake (Neutral) M2_25R

Palm-up (60° Supinated) M2_26R

Turn Direction: Select

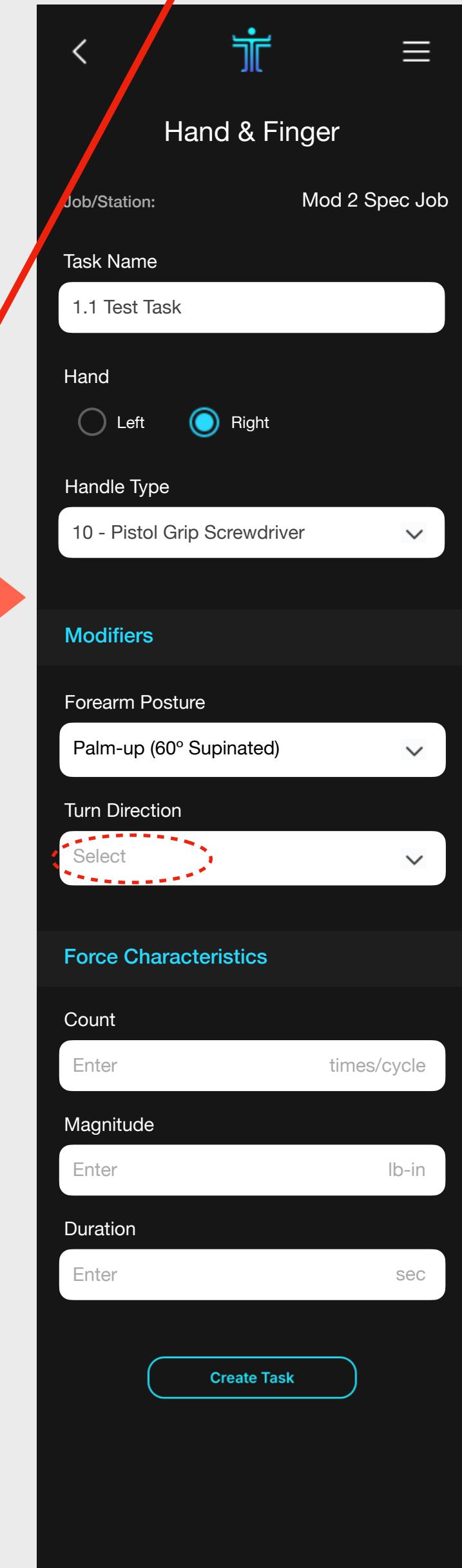
Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Screen 4



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 10 - Pistol Grip Screwdriver

Modifiers

Forearm Posture: Palm-up (60° Supinated)

Turn Direction: Select

Force Characteristics

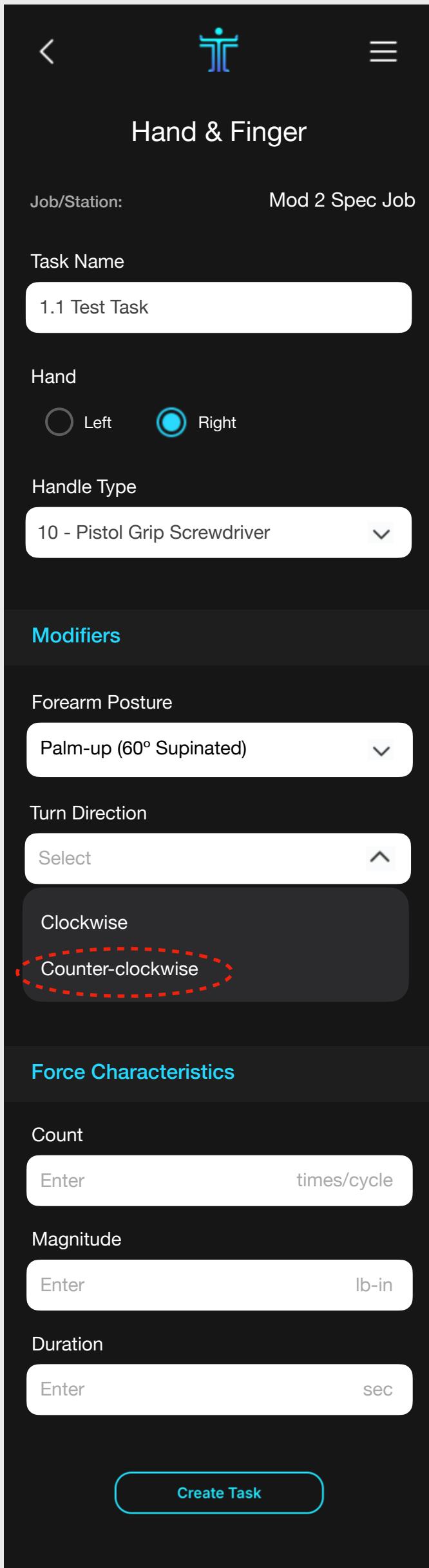
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 5



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 10 - Pistol Grip Screwdriver

Modifiers

Forearm Posture: Palm-up (60° Supinated)

Turn Direction: Select

Clockwise

Counter-clockwise

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

In Screen 1, the user makes entries/selections for **Task Name**, **Hand**, and **Handle Type**.

Then, Screen 2 displays the **Modifiers** for **10 - Pistol Grip Screwdriver**.

Handle Type: 10 - Pistol Grip Screwdriver for **Right** Hand ... continued

For **10 - Pistol Grip Screwdriver**, the Modifiers **Hand**, **Turn Direction**, and **Forearm Posture** determine the Male & Female Population Strength values used in subsequent calculations. See selections and subsequent values below.

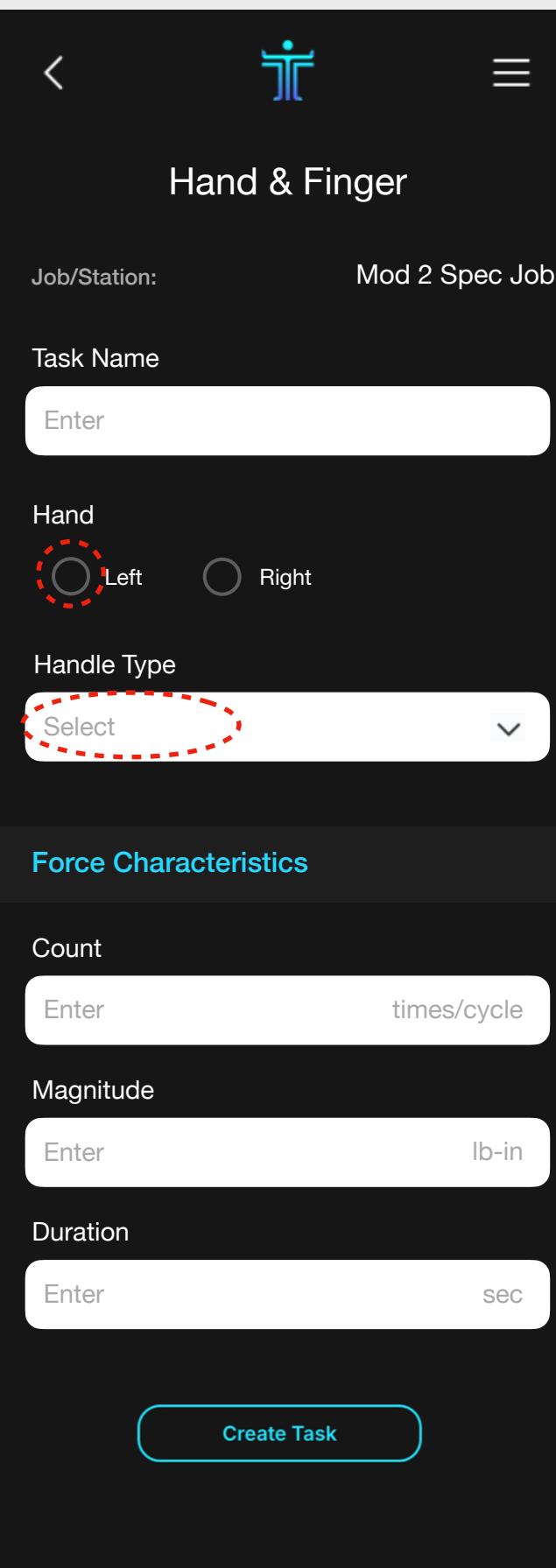
In this example, entries/selections are “Right” for Hand, “Counter-clockwise” for Turn Direction, and “60° Supinated” for Forearm Posture.

Handle Type	Hand	Turn Direction	Forearm Posture	MALE		FEMALE	
				Mean	SD	Mean	SD
Pistol Grip Screwdriver	Right	Counter-clockwise	Palm-down (60° Pronated)	31.42	17.36	18.22	10.07
			Hand-shake (Neutral)	68.51	21.61	39.74	12.54
			Palm-up (60° Supinated)	103.64	24.84	60.11	14.40
	Clockwise	Clockwise	Palm-down (60° Pronated)	105.37	26.76	55.85	14.19
			Hand-shake (Neutral)	87.84	19.10	46.56	10.12
			Palm-up (60° Supinated)	52.90	19.48	28.04	10.32
	Left	Clockwise	Palm-down (60° Pronated)	31.42	17.36	18.22	10.07
			Hand-shake (Neutral)	68.51	21.61	39.74	12.54
			Palm-up (60° Supinated)	103.64	24.84	60.11	14.40
	Counter-clockwise	Counter-clockwise	Palm-down (60° Pronated)	105.37	26.76	55.85	14.19
			Hand-shake (Neutral)	87.84	19.10	46.56	10.12
			Palm-up (60° Supinated)	52.90	19.48	28.04	10.32

Handle Type: 10 - Pistol Grip Screwdriver for Left Hand

Note that in Screen 3, the **Forearm Posture** images represent/depict the **Left Hand** - hence they are named M2_24L, M2_25L, and M2_26L with the "L" in the image filename being for "Left".

Screen 0



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: Enter

Hand: Left Right

Handle Type: Select

Force Characteristics

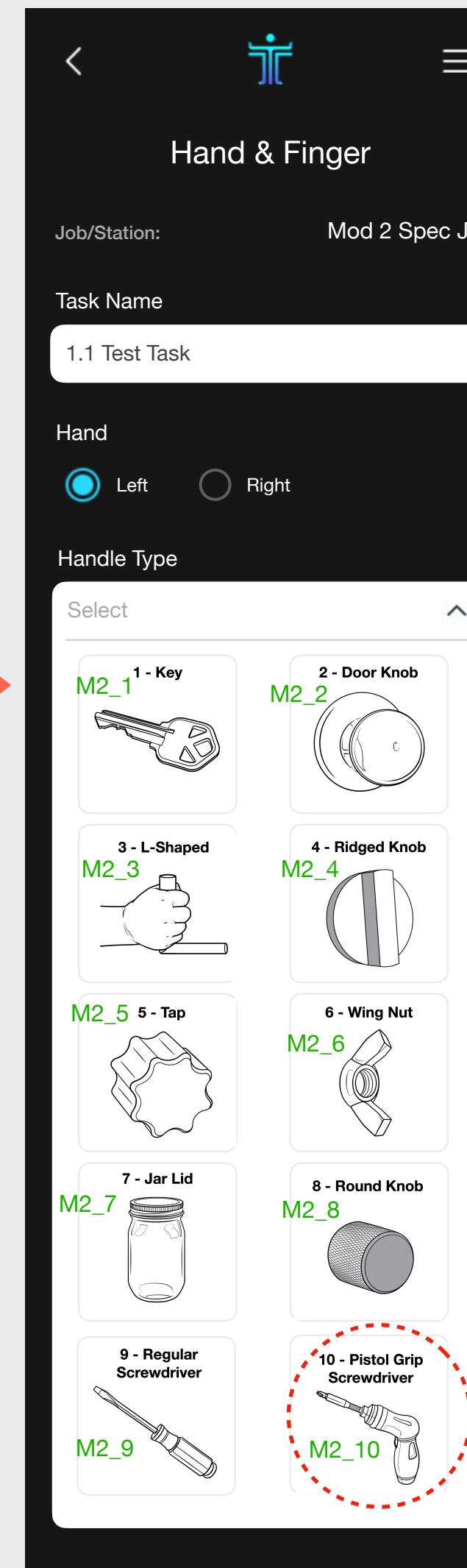
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 1



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 10 - Pistol Grip Screwdriver

Modifiers

Forearm Posture: Select

Turn Direction: Select

Force Characteristics

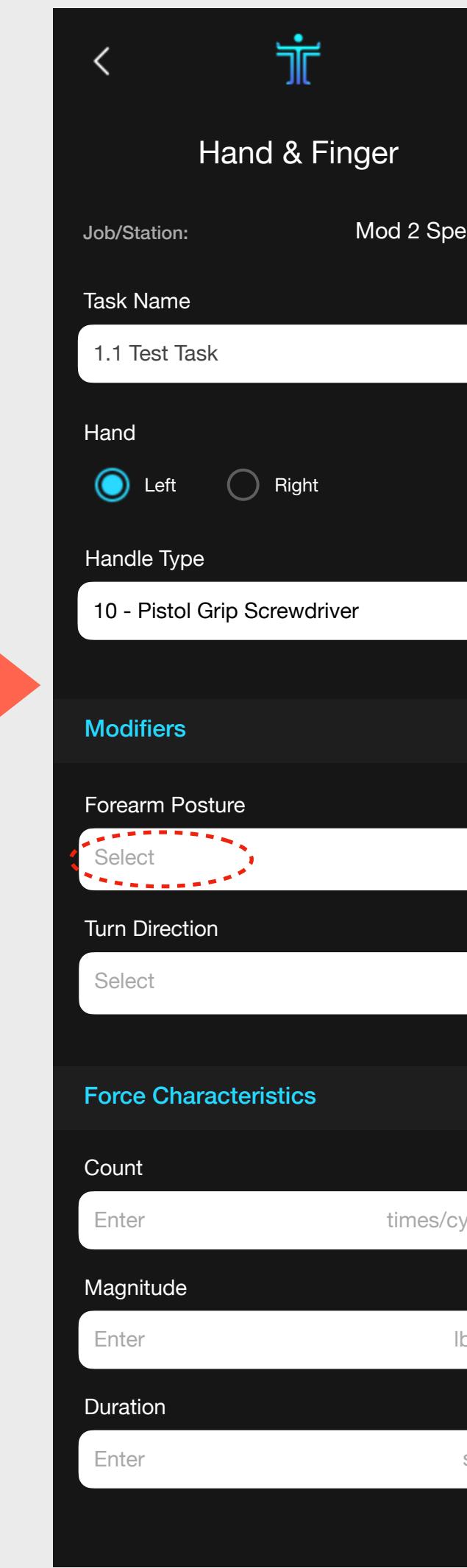
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 2



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 10 - Pistol Grip Screwdriver

Modifiers

Forearm Posture: Select

Turn Direction: Select

Force Characteristics

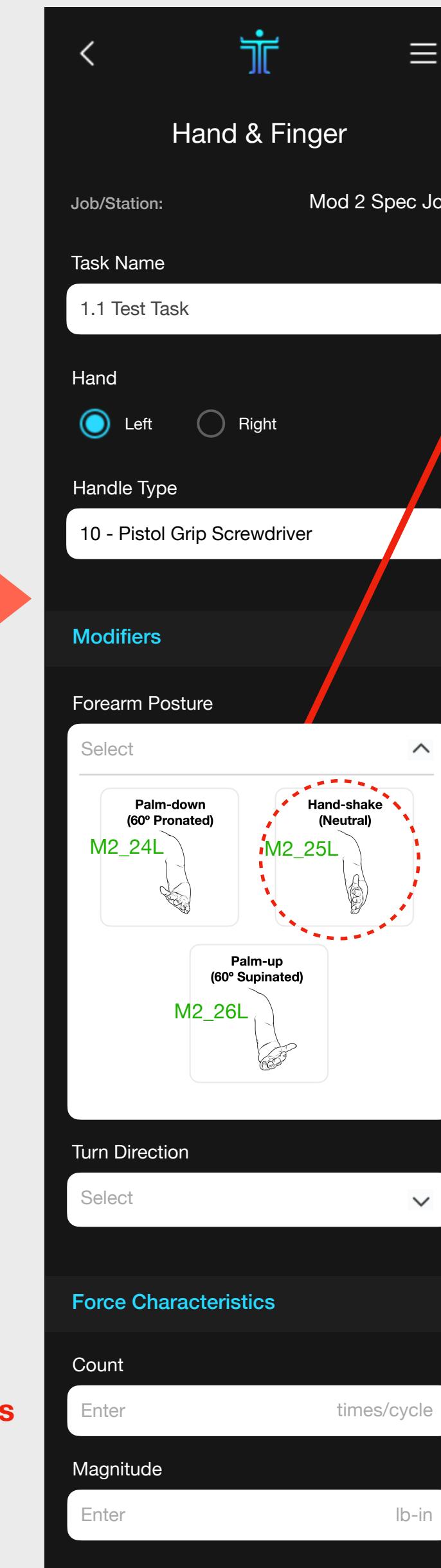
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 3



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 10 - Pistol Grip Screwdriver

Modifiers

Forearm Posture: Select

M2_24L Palm-down (60° Pronated)

M2_25L Hand-shake (Neutral)

M2_26L Palm-up (60° Supinated)

Turn Direction: Select

Force Characteristics

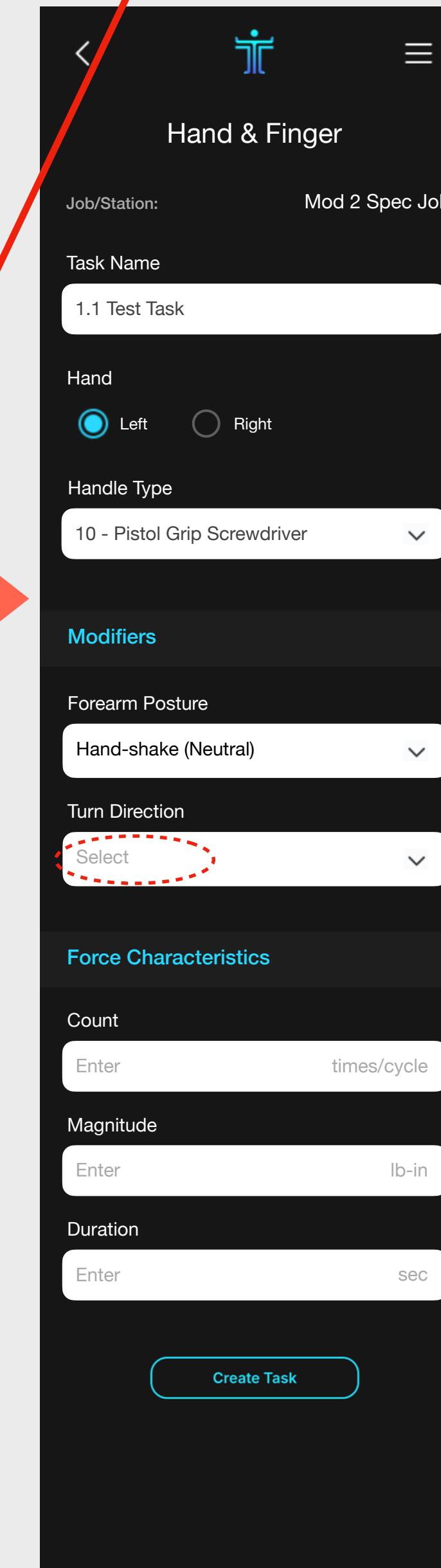
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 4



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 10 - Pistol Grip Screwdriver

Modifiers

Forearm Posture: Hand-shake (Neutral)

Turn Direction: Select

Force Characteristics

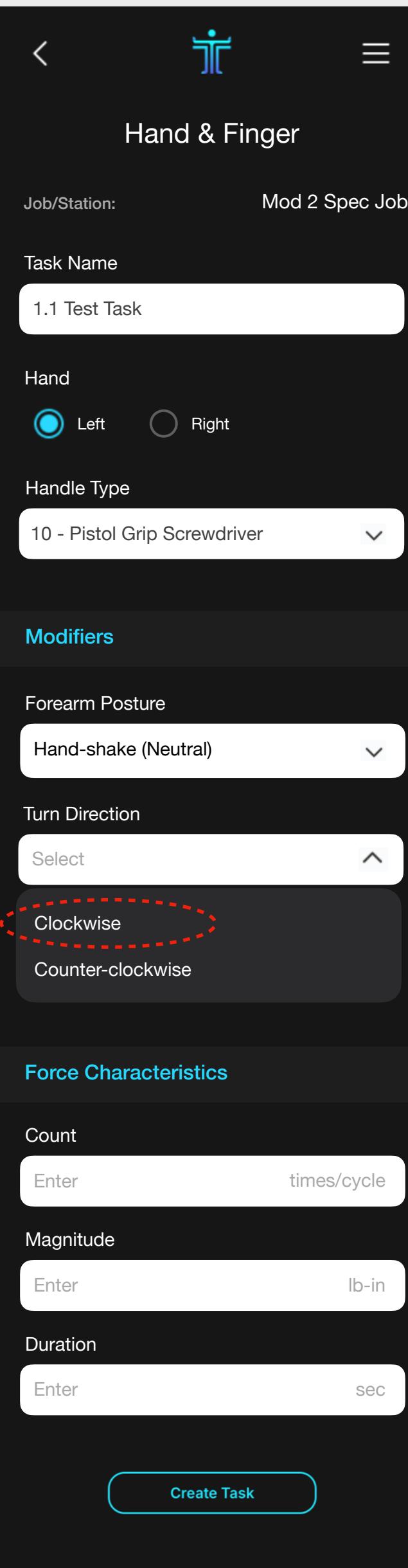
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 5



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 10 - Pistol Grip Screwdriver

Modifiers

Forearm Posture: Hand-shake (Neutral)

Turn Direction: Select

Clockwise

Counter-clockwise

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

In Screen 1, the user makes entries/selections for **Task Name**, **Hand**, and **Handle Type**.

Then, Screen 2 displays the **Modifiers** for **10 - Pistol Grip Screwdriver**.

Handle Type: 10 - Pistol Grip Screwdriver for **Left** Hand ... continued

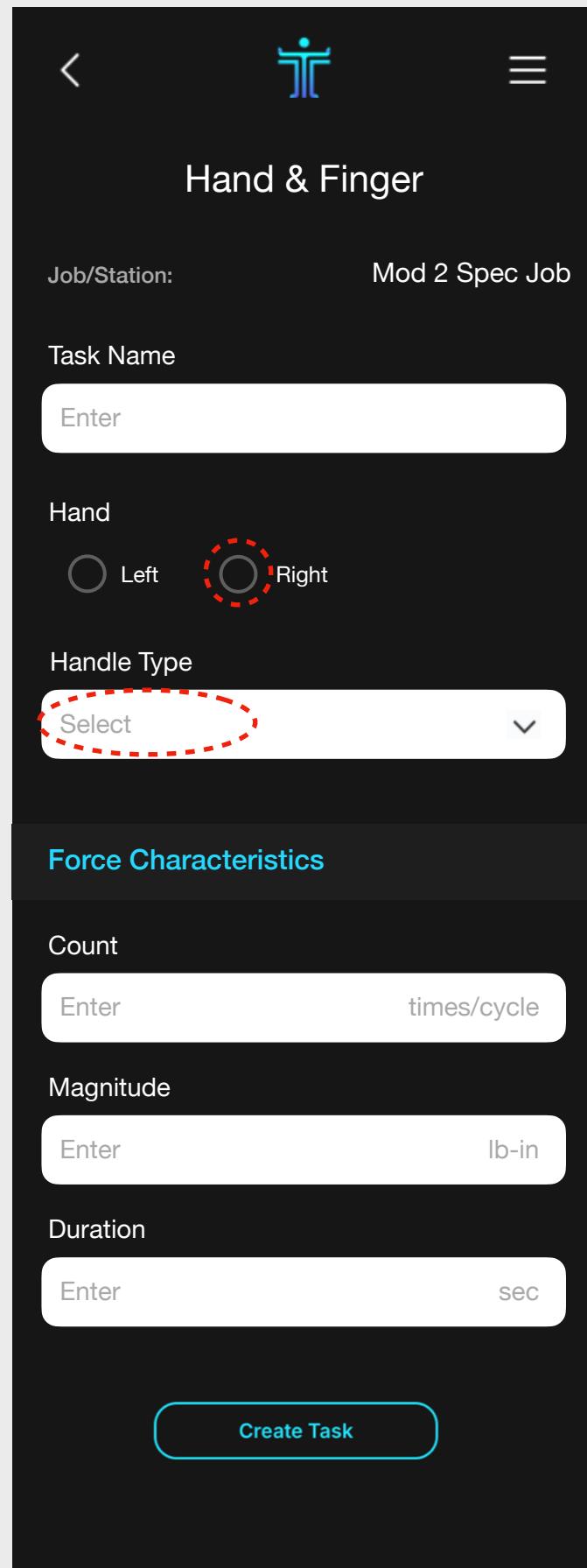
For **10 - Pistol Grip Screwdriver**, the Modifiers **Hand**, **Turn Direction**, and **Forearm Posture** determine the Male & Female Population Strength values used in subsequent calculations. See selections and subsequent values below.

In this example, entries/selections are “Left” for Hand, “Clockwise” for Turn Direction, and “Neutral” for Forearm Posture.

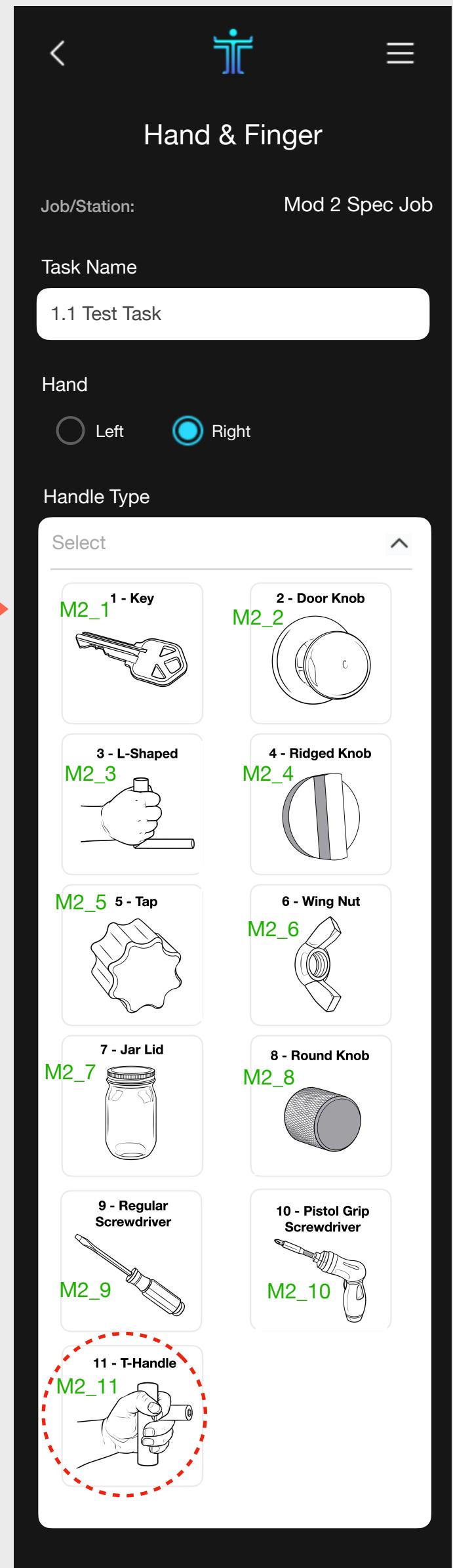
Handle Type	Hand	Turn Direction	Forearm Posture	MALE		FEMALE	
				Mean	SD	Mean	SD
Pistol Grip Screwdriver	Right	Counter-clockwise	Palm-down (60° Pronated)	31.42	17.36	18.22	10.07
			Hand-shake (Neutral)	68.51	21.61	39.74	12.54
			Palm-up (60° Supinated)	103.64	24.84	60.11	14.40
		Clockwise	Palm-down (60° Pronated)	105.37	26.76	55.85	14.19
			Hand-shake (Neutral)	87.84	19.10	46.56	10.12
			Palm-up (60° Supinated)	52.90	19.48	28.04	10.32
	Left	Clockwise	Palm-down (60° Pronated)	31.42	17.36	18.22	10.07
			Hand-shake (Neutral)	68.51	21.61	39.74	12.54
			Palm-up (60° Supinated)	103.64	24.84	60.11	14.40
		Counter-clockwise	Palm-down (60° Pronated)	105.37	26.76	55.85	14.19
			Hand-shake (Neutral)	87.84	19.10	46.56	10.12
			Palm-up (60° Supinated)	52.90	19.48	28.04	10.32

Handle Type: 11 - T-Handle for Right Hand

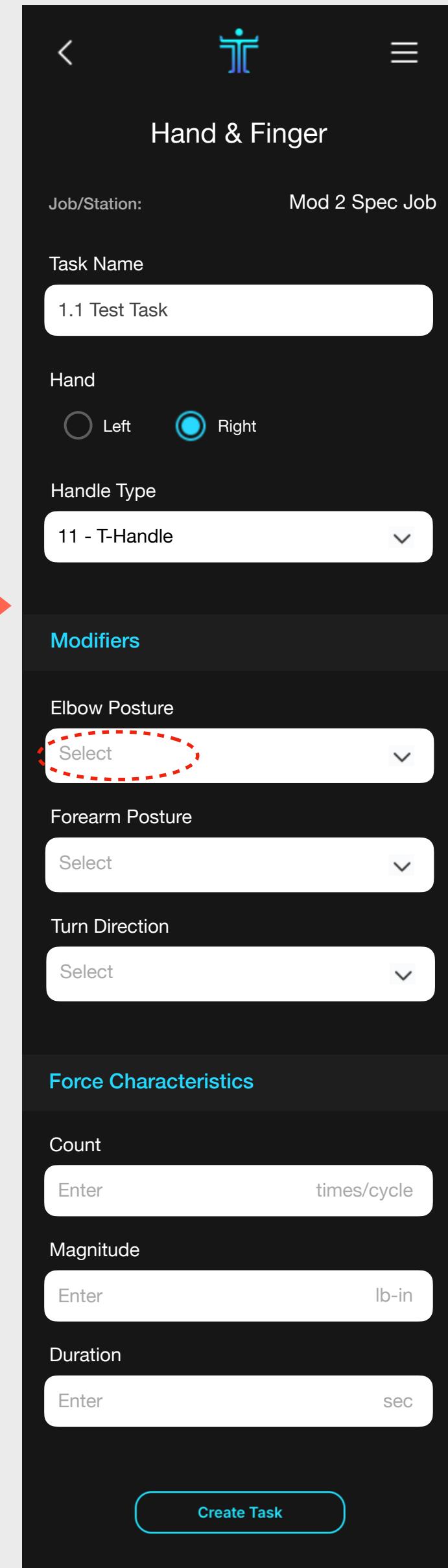
Screen 0



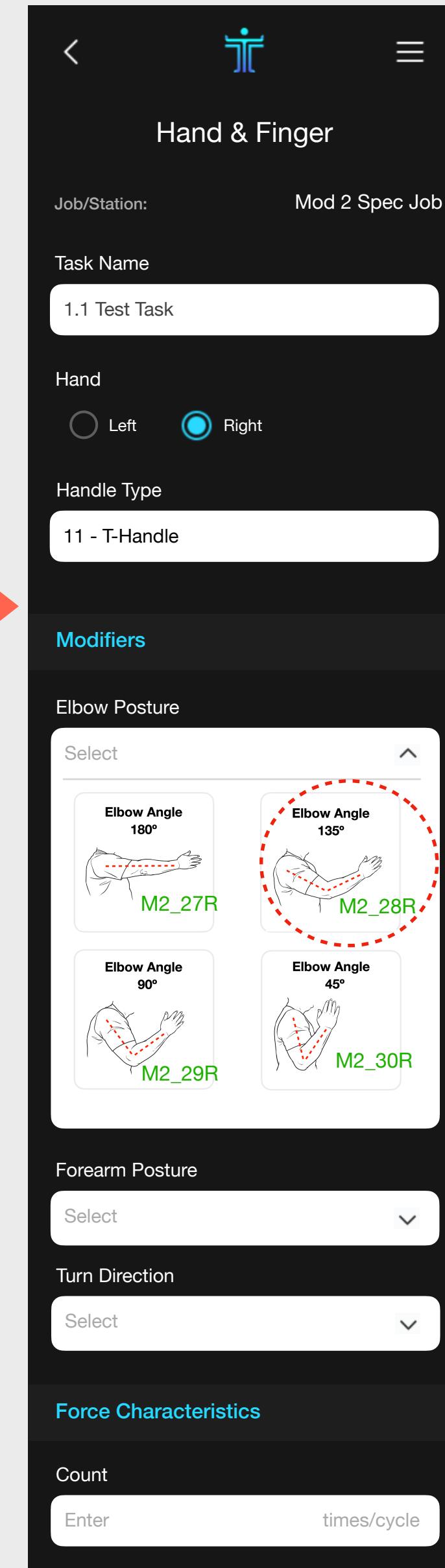
Screen 1



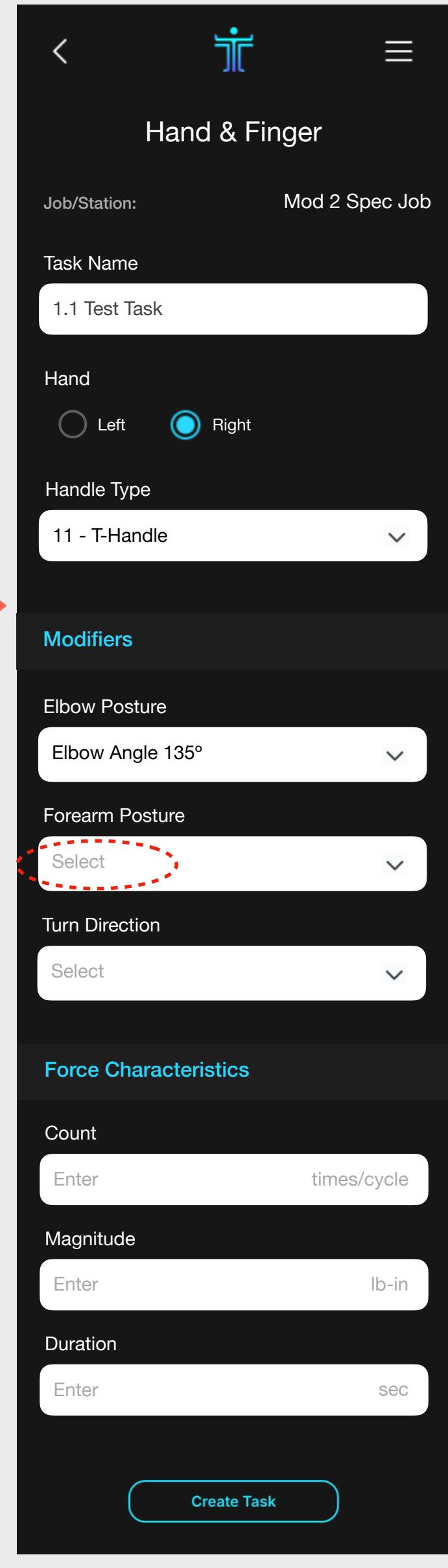
Screen 2



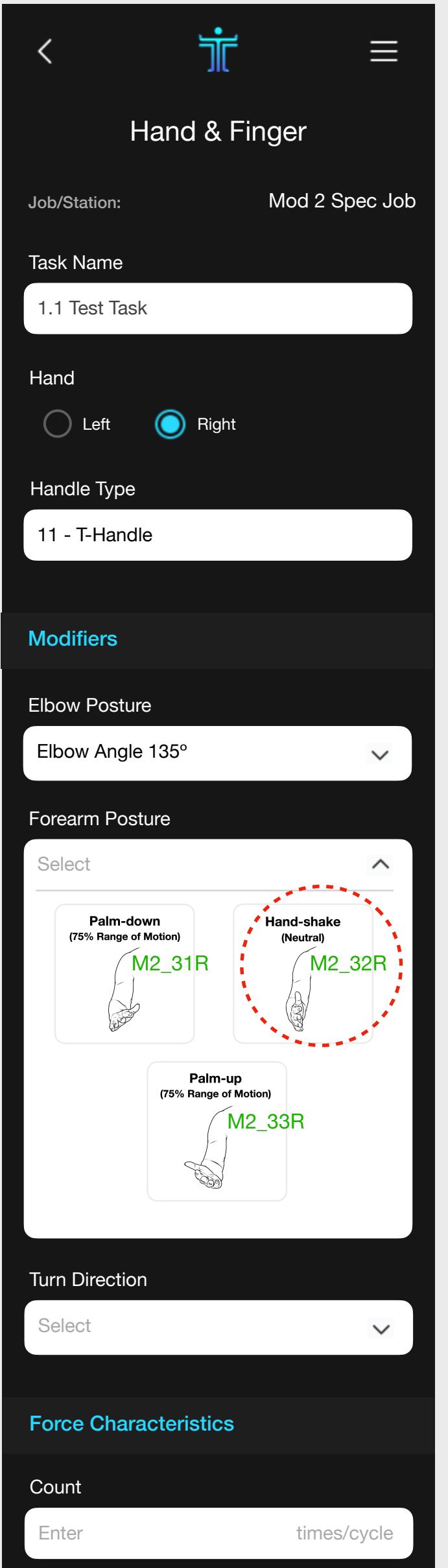
Screen 4



Screen 5



Screen 6



In Screen 1, the user makes entries/selections for **Task Name**, **Hand**, and **Handle Type**.

Handle Type: 11 - T-Handle for Right Hand ... continued

Screen 7

Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 11 - T-Handle

Modifiers

Elbow Posture: Elbow Angle 135°

Forearm Posture: Hand-shake (Neutral)

Turn Direction: Select

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 8

Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 11 - T-Handle

Modifiers

Elbow Posture: Elbow Angle 135°

Forearm Posture: Hand-shake (Neutral)

Turn Direction: Select

Clockwise

Counter-clockwise

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 9

Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 11 - T-Handle

Modifiers

Elbow Posture: Elbow Angle 135°

Forearm Posture: Hand-shake (Neutral)

Turn Direction: Clockwise

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

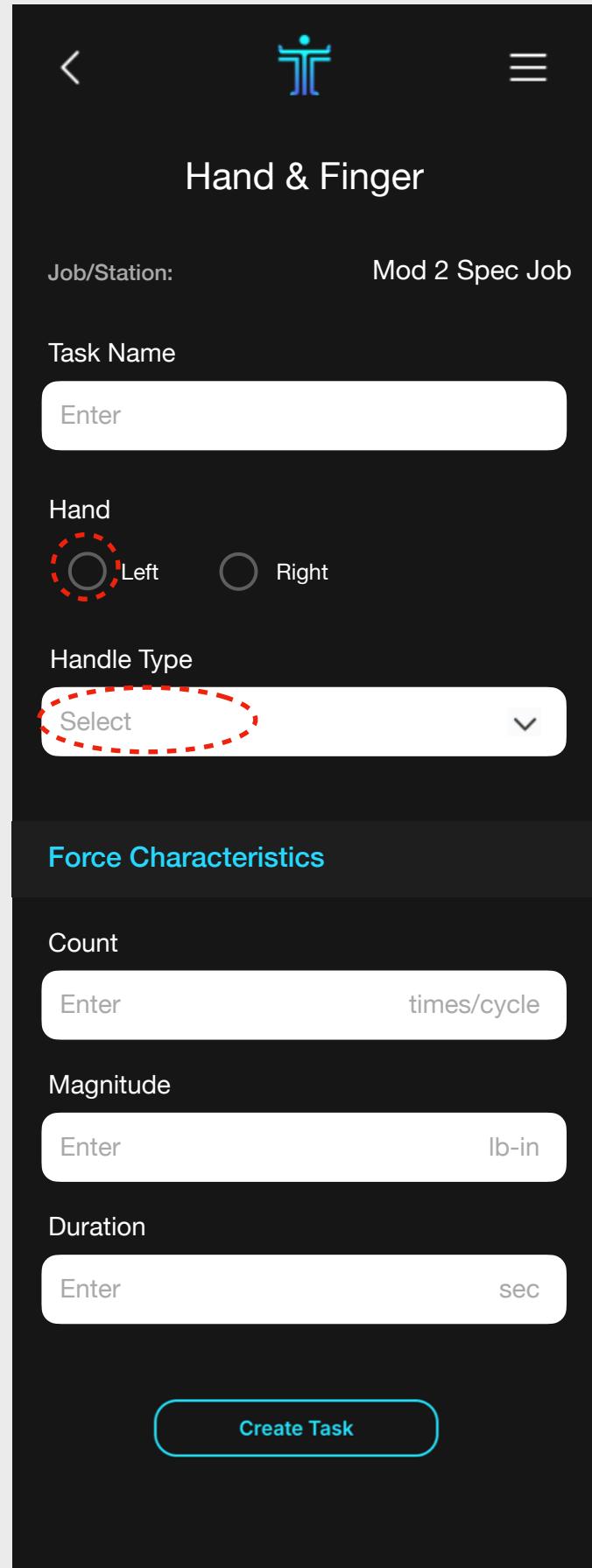
Create Task

Handle Type: 11 - T-Handle for Right Hand ... continued

Handle Type	Hand	Elbow Posture	Turn Direction	Forearm Posture	MALE		FEMALE	
					Mean	SD	Mean	SD
T-Handle	Right	Elbow Angle 180°	Counter-clockwise	Palm-down (75% Range of Motion)	113.29	40.71	65.71	23.61
				Hand-shake (Neutral)	103.55	30.09	60.06	17.45
			Clockwise	Palm-up (75% Range of Motion)	103.55	25.67	60.06	14.89
				Palm-down (75% Range of Motion)	128.34	44.25	68.02	23.45
		Elbow Angle 135°	Counter-clockwise	Hand-shake (Neutral)	102.67	41.60	54.41	22.05
				Palm-up (75% Range of Motion)	99.13	60.19	52.54	31.90
			Clockwise	Palm-down (75% Range of Motion)	107.09	44.25	62.11	25.67
				Hand-shake (Neutral)	119.49	26.55	69.30	15.40
		Elbow Angle 90°	Counter-clockwise	Palm-up (75% Range of Motion)	117.71	29.21	68.27	16.94
				Palm-down (75% Range of Motion)	139.84	56.64	74.12	30.02
			Clockwise	Hand-shake (Neutral)	126.57	49.56	67.08	26.27
				Palm-up (75% Range of Motion)	115.06	64.61	60.98	34.24
T-Handle	Left	Elbow Angle 180°	Counter-clockwise	Palm-down (75% Range of Motion)	97.36	50.45	56.47	29.26
				Hand-shake (Neutral)	113.29	39.83	65.71	23.10
			Clockwise	Palm-up (75% Range of Motion)	115.94	35.40	67.25	20.53
				Palm-down (75% Range of Motion)	137.19	53.99	72.71	28.61
		Elbow Angle 90°	Counter-clockwise	Hand-shake (Neutral)	138.96	55.76	73.65	29.55
				Palm-up (75% Range of Motion)	117.71	69.92	62.39	37.06
			Clockwise	Palm-down (75% Range of Motion)	79.66	42.48	46.20	24.64
				Hand-shake (Neutral)	104.44	33.63	60.57	19.51
		Elbow Angle 45°	Counter-clockwise	Palm-up (75% Range of Motion)	103.55	23.90	60.06	13.86
				Palm-down (75% Range of Motion)	143.38	51.33	75.99	27.21
			Clockwise	Hand-shake (Neutral)	122.14	41.60	64.73	22.05
				Palm-up (75% Range of Motion)	96.47	52.22	51.13	27.68
T-Handle	Left	Elbow Angle 180°	Clockwise	Palm-down (75% Range of Motion)	113.29	40.71	65.71	23.61
				Hand-shake (Neutral)	103.55	30.09	60.06	17.45
			Counter-clockwise	Palm-up (75% Range of Motion)	103.55	25.67	60.06	14.89
				Palm-down (75% Range of Motion)	128.34	44.25	68.02	23.45
		Elbow Angle 135°	Clockwise	Hand-shake (Neutral)	102.67	41.60	54.41	22.05
				Palm-up (75% Range of Motion)	99.13	60.19	52.54	31.90
			Counter-clockwise	Palm-down (75% Range of Motion)	107.09	44.25	62.11	25.67
				Hand-shake (Neutral)	119.49	26.55	69.30	15.40
		Elbow Angle 90°	Clockwise	Palm-up (75% Range of Motion)	117.71	29.21	68.27	16.94
				Palm-down (75% Range of Motion)	139.84	56.64	74.12	30.02
			Counter-clockwise	Hand-shake (Neutral)	126.57	49.56	67.08	26.27
				Palm-up (75% Range of Motion)	115.06	64.61	60.98	34.24
		Elbow Angle 45°	Clockwise	Palm-down (75% Range of Motion)	97.36	50.45	56.47	29.26
				Hand-shake (Neutral)	113.29	39.83	65.71	23.10
			Counter-clockwise	Palm-up (75% Range of Motion)	115.94	35.40	67.25	20.53
				Palm-down (75% Range of Motion)	137.19	53.99	72.71	28.61
		Elbow Angle 45°	Clockwise	Hand-shake (Neutral)	138.96	55.76	73.65	29.55
				Palm-up (75% Range of Motion)	117.71	69.92	62.39	37.06
			Counter-clockwise	Palm-down (75% Range of Motion)	79.66	42.48	46.20	24.64
				Hand-shake (Neutral)	104.44	33.63	60.57	19.51

Handle Type: 11 - T-Handle for Left Hand

Screen 0



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: Enter

Hand: Left Right

Handle Type: Select

Force Characteristics

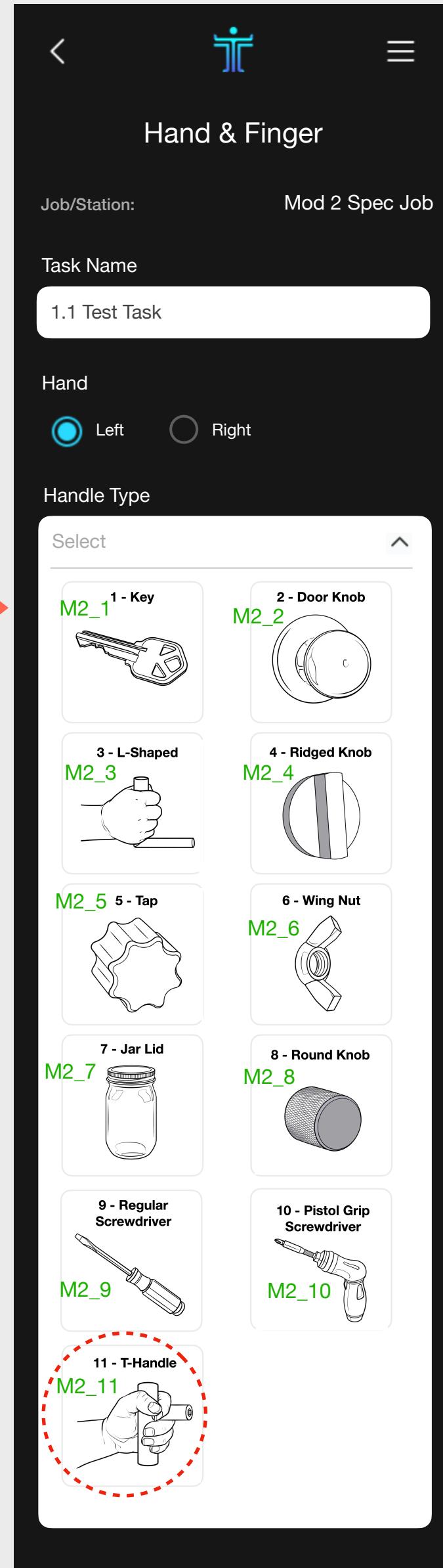
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 1



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: Select

11 - T-Handle

Modifiers

Elbow Posture: Select

Forearm Posture: Select

Turn Direction: Select

Force Characteristics

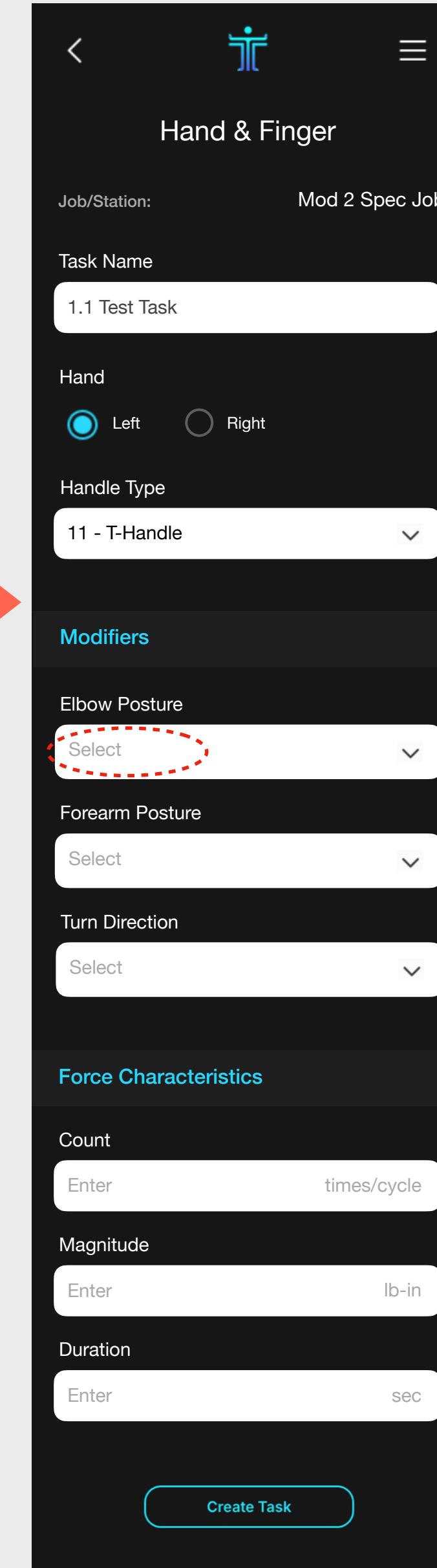
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 2



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 11 - T-Handle

Modifiers

Elbow Posture: Select

Elbow Angle 180°

Elbow Angle 135°

Elbow Angle 90° (M2_29L)

Elbow Angle 45°

Forearm Posture: Select

Turn Direction: Select

Force Characteristics

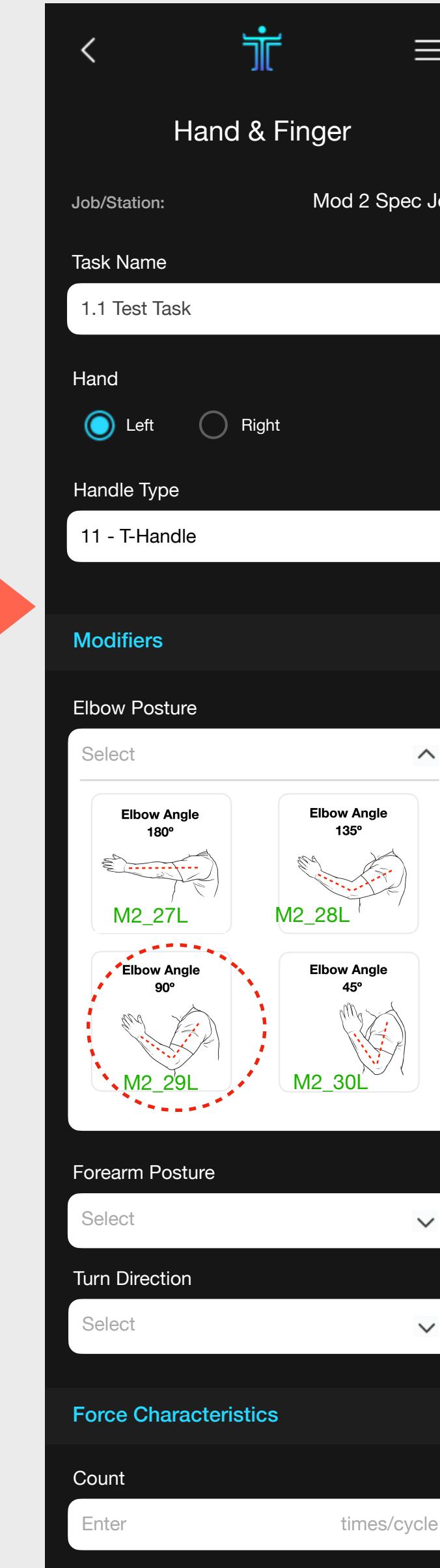
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 4



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 11 - T-Handle

Modifiers

Elbow Posture: Select

Elbow Angle 180°

Elbow Angle 135°

Elbow Angle 90° (M2_29L)

Elbow Angle 45°

Forearm Posture: Select

Palm-down (75% Range of Motion)

Hand-shake (Neutral)

Palm-up (75% Range of Motion)

Turn Direction: Select

Force Characteristics

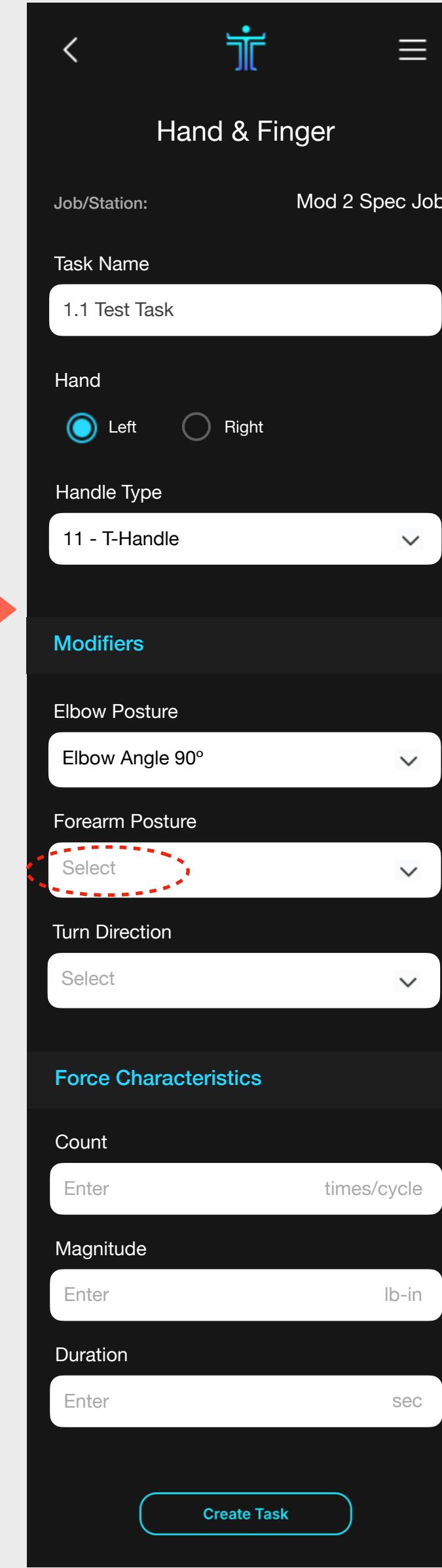
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 5



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 11 - T-Handle

Modifiers

Elbow Posture: Select

Elbow Angle 90°

Forearm Posture: Select

Palm-down (75% Range of Motion)

Hand-shake (Neutral)

Palm-up (75% Range of Motion)

Turn Direction: Select

Force Characteristics

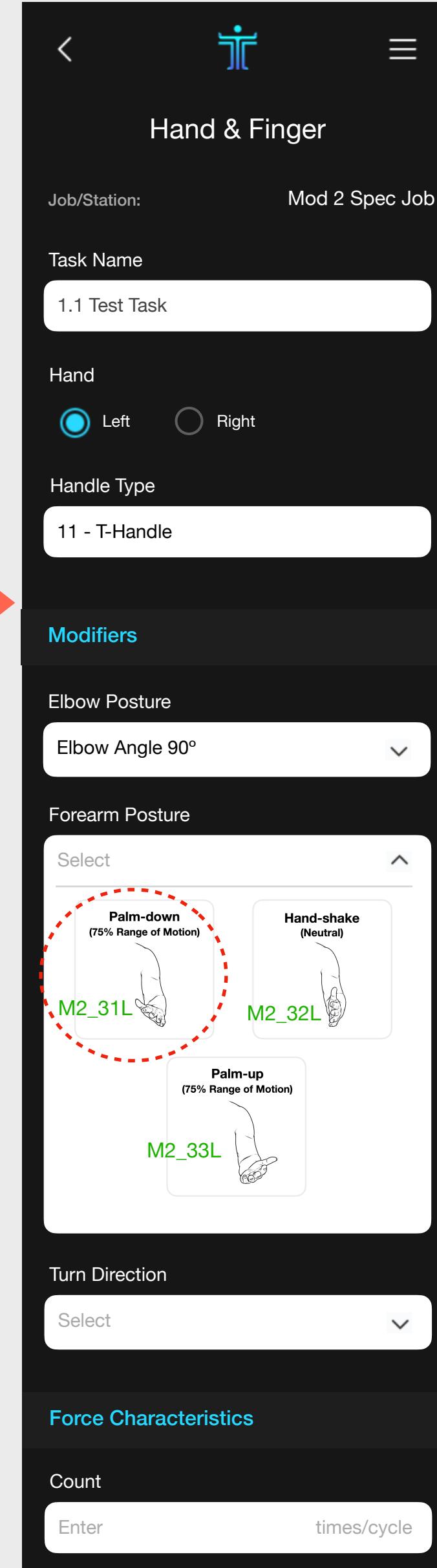
Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 6



Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 11 - T-Handle

Modifiers

Elbow Posture: Select

Elbow Angle 90°

Forearm Posture: Select

Palm-down (75% Range of Motion)

Hand-shake (Neutral)

Palm-up (75% Range of Motion)

Turn Direction: Select

Force Characteristics

Count: Enter times/cycle

In Screen 1, the user makes entries/selections for **Task Name**, **Hand**, and **Handle Type**.

Handle Type: 11 - T-Handle for **Left** Hand ... continued

Screen 7

Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 11 - T-Handle

Modifiers

Elbow Posture: Elbow Angle 90°

Forearm Posture: Palm-down (75% Range of Motion)

Turn Direction: Select (highlighted with a red dashed circle)

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 8

Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 11 - T-Handle

Modifiers

Elbow Posture: Elbow Angle 90°

Forearm Posture: Palm-down (75% Range of Motion)

Turn Direction: Select

Clockwise

Counter-clockwise (highlighted with a red dashed circle)

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Screen 9

Hand & Finger

Job/Station: Mod 2 Spec Job

Task Name: 1.1 Test Task

Hand: Left Right

Handle Type: 11 - T-Handle

Modifiers

Elbow Posture: Elbow Angle 90°

Forearm Posture: Palm-down (75% Range of Motion)

Turn Direction: Counter-clockwise

Force Characteristics

Count: Enter times/cycle

Magnitude: Enter lb-in

Duration: Enter sec

Create Task

Handle Type: 11 - T-Handle for **Left** Hand ... continued

Handle Type	Hand	Elbow Posture	Turn Direction	Forearm Posture	MALE		FEMALE	
					Mean	SD	Mean	SD
T-Handle	Right	Elbow Angle 180°	Counter-clockwise	Palm-down (75% Range of Motion)	113.29	40.71	65.71	23.61
				Hand-shake (Neutral)	103.55	30.09	60.06	17.45
				Palm-up (75% Range of Motion)	103.55	25.67	60.06	14.89
			Clockwise	Palm-down (75% Range of Motion)	128.34	44.25	68.02	23.45
				Hand-shake (Neutral)	102.67	41.60	54.41	22.05
				Palm-up (75% Range of Motion)	99.13	60.19	52.54	31.90
		Elbow Angle 135°	Counter-clockwise	Palm-down (75% Range of Motion)	107.09	44.25	62.11	25.67
				Hand-shake (Neutral)	119.49	26.55	69.30	15.40
				Palm-up (75% Range of Motion)	117.71	29.21	68.27	16.94
			Clockwise	Palm-down (75% Range of Motion)	139.84	56.64	74.12	30.02
				Hand-shake (Neutral)	126.57	49.56	67.08	26.27
				Palm-up (75% Range of Motion)	115.06	64.61	60.98	34.24
		Elbow Angle 90°	Counter-clockwise	Palm-down (75% Range of Motion)	97.36	50.45	56.47	29.26
				Hand-shake (Neutral)	113.29	39.83	65.71	23.10
				Palm-up (75% Range of Motion)	115.94	35.40	67.25	20.53
			Clockwise	Palm-down (75% Range of Motion)	137.19	53.99	72.71	28.61
				Hand-shake (Neutral)	138.96	55.76	73.65	29.55
				Palm-up (75% Range of Motion)	117.71	69.92	62.39	37.06
		Elbow Angle 45°	Counter-clockwise	Palm-down (75% Range of Motion)	79.66	42.48	46.20	24.64
				Hand-shake (Neutral)	104.44	33.63	60.57	19.51
				Palm-up (75% Range of Motion)	103.55	23.90	60.06	13.86
			Clockwise	Palm-down (75% Range of Motion)	143.38	51.33	75.99	27.21
				Hand-shake (Neutral)	122.14	41.60	64.73	22.05
				Palm-up (75% Range of Motion)	96.47	52.22	51.13	27.68
T-Handle	Left	Elbow Angle 180°	Clockwise	Palm-down (75% Range of Motion)	113.29	40.71	65.71	23.61
				Hand-shake (Neutral)	103.55	30.09	60.06	17.45
				Palm-up (75% Range of Motion)	103.55	25.67	60.06	14.89
			Counter-clockwise	Palm-down (75% Range of Motion)	128.34	44.25	68.02	23.45
				Hand-shake (Neutral)	102.67	41.60	54.41	22.05
				Palm-up (75% Range of Motion)	99.13	60.19	52.54	31.90
		Elbow Angle 135°	Clockwise	Palm-down (75% Range of Motion)	107.09	44.25	62.11	25.67
				Hand-shake (Neutral)	119.49	26.55	69.30	15.40
				Palm-up (75% Range of Motion)	117.71	29.21	68.27	16.94
			Counter-clockwise	Palm-down (75% Range of Motion)	139.84	56.64	74.12	30.02
				Hand-shake (Neutral)	126.57	49.56	67.08	26.27
				Palm-up (75% Range of Motion)	115.06	64.61	60.98	34.24
		Elbow Angle 90°	Clockwise	Palm-down (75% Range of Motion)	97.36	50.45	56.47	29.26
				Hand-shake (Neutral)	113.29	39.83	65.71	23.10
				Palm-up (75% Range of Motion)	115.94	35.40	67.25	20.53
			Counter-clockwise	Palm-down (75% Range of Motion)	143.38	51.33	75.99	27.21
				Hand-shake (Neutral)	122.14	41.60	64.73	22.05
				Palm-up (75% Range of Motion)	96.47	52.22	51.13	27.68
		Elbow Angle 45°	Clockwise	Palm-down (75% Range of Motion)	79.66	42.48	46.20	24.64
				Hand-shake (Neutral)	104.44	33.63	60.57	19.51
				Palm-up (75% Range of Motion)	103.55	23.90	60.06	13.86
			Counter-clockwise	Palm-down (75% Range of Motion)	143.38	51.33	75.99	27.21
				Hand-shake (Neutral)	122.14	41.60	64.73	22.05
				Palm-up (75% Range of Motion)	96.47	52.22	51.13	27.68

Left

Elbow Angle 90°

Counter-clockwise

137.19 53.99 72.71 28.61