

# nexus

HYDRAULICS



***NX-18***

# ***OPERATION MANUAL***

**READ BEFORE OPERATION**

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# INTRODUCTION

**Do not unpack or operate the crimping machine until you have thoroughly read this manual. All who operate the crimping machine must read this manual.**

This information is intended only for specialized operators who can operate the machine without risk to themselves, other persons, property, the machine, or the environment. The operator should have fundamental knowledge in trouble-shooting methods, perform machine inspections and simple maintenance according to the information provided in this manual and according to local legislation for protection of health and safety.

This manual does not explain disassembly or comprehensive maintenance in detail. These may only be performed by an authorized NEXUS service technician.

Keep this manual for future reference as needed. Contact your closest authorized supplier for a replacement manual or additional information if necessary. QR code below for online information.

NEXUS is not liable for injury/damage to persons/machine or property as a result of improper use, modifications to the machine or not following these safety instructions.

## SAFETY RULES

Always ensure that the minimum standards for safety, installation and operation are complied with before operating the machine. Only operate the crimper in a well-lit area and observe the surrounding environmental conditions such as temperature, humidity, lighting, vibrations, dust and other conditions that could have a negative affect on the machine's operation. Never remove the machine's information or warning plates.

Ensure that they remain clearly readable. Contact an authorized service workshop for replacement plates if they become unreadable.

The use of any spare parts that deviate from this manual's specifications, any other changes/manipulations (however insignificant) made to your machine releases NEXUS from any liability for consequences that arise due to the machine's performance, level safety for nearby persons and / or personal property.

Disassembling or bypassing safety devices or rules is extremely hazardous and absolutely prohibited. Refusal to follow these requirements puts others at severe risk of injury!

**Note:** All maintenance not described in this manual must be performed by an authorized NEXUS service technician.

### Online Information



# EQUIPMENT

The machine consists of a chassis, crimping head and is delivered ready to use, packed in a wooden box on a pallet.

**Note:** Always dispose of operation waste according to current local laws and regulations.

## Warranty

The warranty lasts one (1) year from purchase and only under the strict condition that the manual instructions have been followed. The warranty covers any possible material or parts defects. The warranty does not cover improper use or normal wear. Travel costs, time for repair and shipping costs are not covered by the warranty. Repairs under the warranty are to be made only by NEXUS or an authorized service technician approved by NEXUS. Lost income or extra costs that may arise for any reason are not covered by the warranty.

**Note:** Ensure that the machine is undamaged and that all of the described items are present upon arrival or shortly after. NEXUS is not liable for incorrect or missing parts that are not reported within eight (8) days after delivery.

## Important

NX-18 crimper is designed for crimping hydraulic hose from 3/16"-1" (4.75 mm to 25 mm). Any other use of this machine is considered improper and NEXUS is not liable for injury or damage to persons, property or the machine. The machine shall only be used for crimping hydraulic hose according to specification. NEXUS instructions for operating conditions and limitations for use/ operation, as well as health and safety regulations, must be complied with.

## Warning

**PINCH POINT! KEEP HANDS AND ALL OTHER BODY PARTS AWAY FROM THE CRIMPER OPENING WHEN OPERATING.**



## Caution

All Die Sets contain eight (8) segments and are required to be installed in order in a Clockwise (1 2 3 4 5 6 7 8) when facing the front of the crimper. The first die (number 1) can be installed in any of the master dies, but the remaining dies need to be installed in increasing order and in a clockwise manner. Especially important for all sizes under -16 mm to ensure the fitting is crimped properly.

# NX-18



## START-UP

### *Machine Placement*

Place the machine on a stable and flat surface.

### *Selecting Dies*

Determine the proper crimping dimensions for the hose & fitting combination using the NEXUS crimp chart and select the die set with the correct range that corresponds to the final crimp spec.

For example: A finished specification of 17 mm requires the -16 die set (since it covers the 16-19 mm interval).

Always select the die set within the correct interval to achieve the best crimping results. Each die is marked with the smallest crimp measurement it is able to be used for.

**Note:** Using the wrong die set for the target finished crimp will result in incorrect assemblies and could damage the fitting or the crimper.

## NX-18 Dies

| Die Set  | Finished Crimping Area |
|----------|------------------------|
| 16-10    | 10-12mm                |
| 16-12    | 12-14mm                |
| 16-14    | 14-16mm                |
| 16-16    | 16-19mm                |
| 16-19    | 19-23mm                |
| 16-23    | 23-27mm                |
| 16-27    | 27-31mm                |
| 16-31    | 31-36mm                |
| Base Die | 36-45mm                |



## Setting Crimping Measurements

The NEXUS crimp charts indicate what die set to use based on the selected hose & fitting. Be sure to use the correct die set or it could result in damage to the fitting or machine.

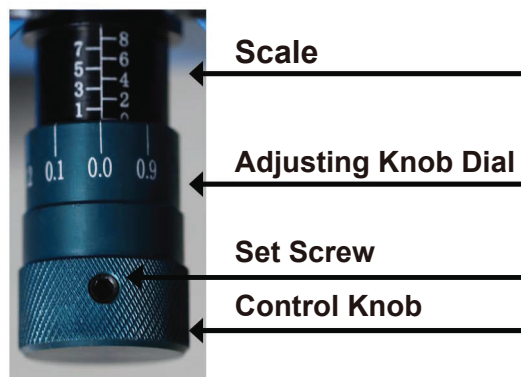
Once the dies are selected and inserted properly in the crimper, turn the dial indicator on the dies of the machine to 0 on the scale and 0.0 on the dial. This sets the target crimp to whatever the smallest number is on the range of the die set.

For example: The 16-19 die has a finished crimp of 19 mm with the dial set at 0 on the indicator & 0.0 on the dial.

If the target crimp is 20 mm, turn the dial to the 1 on the indicator and 0.0 on the dial (19mm die plus the additional 1.0 mm).

If the target crimp is 22.5 mm, turn the dial until it is at the 3 on the indicator and then just past until the 0.5 is on the line. (19mm die plus the additional 3.5 mm on the dial).

The set crimping measurement values can differ slightly from the actual crimping measurement because of the machine's die expansion and retraction. Compensate this by adjusting the setting.



**DIE SET**

|            | 0 turn | 1 turn | 2 turn | 3 turn                | 4 turn | 5 turn | 6 turn | 7 turn |    |    |
|------------|--------|--------|--------|-----------------------|--------|--------|--------|--------|----|----|
| 16-10      | 10     | 11     | 12     | <b>USE NEXT SIZE!</b> |        |        |        |        |    |    |
| 16-12      | 12     | 13     | 14     |                       |        |        |        |        |    |    |
| 16-14      | 14     | 15     | 16     |                       |        |        |        |        |    |    |
| 16-16      | 16     | 17     | 18     |                       |        |        |        |        | 19 |    |
| 16-19      | 19     | 20     | 21     |                       |        |        |        |        | 22 | 23 |
| 16-23      | 23     | 24     | 25     |                       |        |        |        |        | 26 | 27 |
| 16-27      | 27     | 28     | 29     |                       |        |        |        |        | 30 | 31 |
| 16-31      | 31     | 32     | 33     | 34                    | 35     | 36     | 37     | 38     |    |    |
| Masterdies | 39     | 40     | 41     | 42                    | 43     | 44     | 45     | 46     |    |    |

## Changing Die Sets

- Retract the dies completely by turning the valve to open.
- Remove the die set by turning it either direction or pulling it straight out.
- Ensure that the 8-segment die set is clean, undamaged and that all are marked with the same number.
- With the **die marking numbers facing you**, insert each die clicking the die pins in their holes in the crimping head.
- Ensure that all dies are correctly inserted in the machine, installed in numerical order in a clockwise order.

# Crimping

Press the light test button to check light illuminates.

1. When the die set is inserted in the machine and the target crimp is set, (A) place the fitting & hose end in the opening of the crimper.
2. Depending on the pump you are using, crimp the fitting on the hose.
3. When the target crimp diameter is reached, the Red Light on the dial indicator will light up. Stop the crimping cycle right away and retract the dies to release the assembly from the crimper. Do not over crimp as you can damage the fitting and/or the crimper.
4. Use a micrometer to measure the finished crimp to ensure the fitting has been properly crimped on the hose.
  - Refer to the NEXUS crimp specs on how to measure final crimp specs.



(A)



(B)

When crimping fittings with an angled fitting, the elbow should face forward (B) at 90°. There is a notch in the crimping head to align this position. For hoses with elbows on both ends, ensure there is sufficient clearance to remove the assembly after crimping.

## Maintenance

### Lubrication

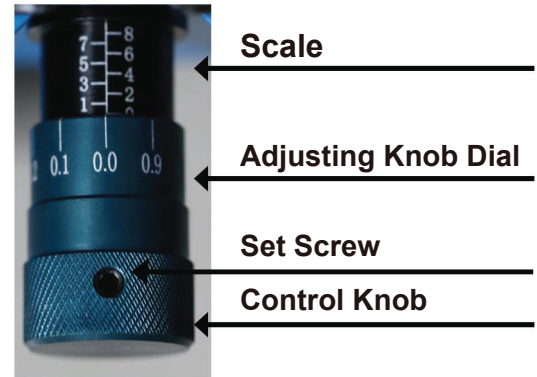
The machine should be cleaned and lubricated approximately every eight (8) hours of operation. Retract the dies all the way to lubricate. Use a small brush to lubricate the cone shaped surfaces in the cylinder.

Failing to lubricate the crimper will cause the machine to lose crimping force and will damage the sliding surfaces. NEXUS recommends extreme pressure grease.

## Calibration

If the target crimp diameter differs too much from the actual results, the machine may need to be re-calibrated.

1. Contract (press) the dies together completely in the unit.
2. Set the dial to - 0.2.
3. Using an allen key, loosen the set screw on the control knob.
4. Turn the adjustment dial so that the end surface of the set screw (A) align with the face of the ring.
5. Tighten the set screw.
6. Calibration is complete.
7. Check and repeat the procedure if the actual crimping measurement differs from the set crimping measurement.



## Crimp Head Bolt Re-Torquing

Crimp head bolts must be re-torqued periodically to ensure safe and consistent operation.

- NX-18: 45 Nm (33 ft-lb)

Re-torquing frequency depends on machine usage. As a general guideline, perform this procedure monthly. At minimum, it should be completed quarterly.

## Trouble Shooting

| Problem                              | Reason   | Solution   |
|--------------------------------------|--|--|
| Low Crimping Force                   | <ol style="list-style-type: none"> <li>1. Insufficient Lubrication</li> <li>2. Return Valve Not Closed</li> <li>3. Leakage</li> <li>4. Pump Leakage</li> </ol> | Lubricate<br>Close the Valve<br>Repair Replace Seals |
| Crimping Measurement is Inconsistent | <ol style="list-style-type: none"> <li>1. Insufficient Lubrication</li> <li>2. Adjusting Knob Lost its Position</li> </ol>                                     | Lubricate<br>Calibrate                               |
| Red Light Does Not Work              | <ol style="list-style-type: none"> <li>1. Battery Depleted or Faulty</li> </ol>  | Replace Battery<br>(CR2025 Battery)                  |

# SPECIFICATION DETAILS



**Main Specification** ..... NX-18  
**Max Hydraulic Hose** ..... 1" 4SP  
**Crimping Range** ..... 6-45 mm  
**Die Type** .....NX-18 Die  
**Master Die Length** ..... 64 mm  
**Max Opening** ..... +20 mm  
**Crimping Force** ..... 1200 KN  
**L\*W\*H mm** ..... 190\*180\*320  
**Weight** ..... 22kg  
**Control** ..... Micro Dial  
**Machine Control** ..... Manual  
**Max Pressure** ..... 630 bar

**Benefits:**

- Elbow 90 Degree Hose Up To 1"
- Portable 1" 4SP Crimper
- No Electricity Required
- Optional Pump Package (See Page 11)
- Complete Die Sets

**Standard Die Sets Included:**

|                |    |    |    |    |    |    |    |    |    |
|----------------|----|----|----|----|----|----|----|----|----|
| <b>Die No.</b> | 10 | 12 | 14 | 16 | 19 | 23 | 27 | 31 | 37 |
| <b>Length</b>  | 55 | 55 | 55 | 55 | 55 | 55 | 65 | 65 | 65 |

\*Special Die sets or dedicated die sets available upon request.

**Optional Die Sets:**

|                |    |    |
|----------------|----|----|
| <b>Die No.</b> | 6  | 8  |
| <b>Length</b>  | 55 | 55 |

# NEXUS NX-18 PUMP OPTIONS

## ***NX-18 - Unit Only (No Pump)***

This unit allows you to use your own pump. You will need need a pressure line with 3/8" male NPT end, capable of 6 - 10,000 psi with a release, the return function is by internal spring.



## ***NX-18H - Unit with Hand Pump***

This pump unit is easy to use and you do not need power cord or air line's, just close the turn knob and pump the two-stage pump. Once you reach the finished crimp position the light on the crimper unit will illuminate. Release the turn knob to release the pressure and the crimper will retract.



## ***NX-18A - Unit with Pneumatic Hydraulic Pump***

This pump unit uses air to drive the hydraulic pump, you should use 90-140 psi inlet for max performance. Make sure the breather is open, press the pedal in the pressure direction, the pump will pressurize the crimper. When the light comes on you have reached your desired crimp, reverse the pedal to release and the pump will release the pressure and the crimper will retract.



## ***NX-18B - Unit with Battery Operated Hydraulic Pump***

This pump unit operates using a Makita battery (if you use another brand of tools, adapters are available), simply turn the unit on and press the up arrow either on the unit or on the remote switch. The pump will pressurize and when the crimper light comes on stop pressing and press the down arrow to release the pressure and the crimper will retract.

