NP60
OPERATORS MANUAL

NP60 CRIMPER INSTRUCTION

IMPORTANT Do not operate this equipment until you read and fully understand.this manual and its assembly instructions.

SPECIFICATION .

Physical Size: Dimensions – 25" Deep x 21%"' Wide x 21" High
Weight – Approximately 250 pounds

Dies: 6 Sets .520, .670, .830, 1.100, I .320, 1.730. Other Die sizes available as optional.

Pump: Maximum psi - 10,000 psi
Delivery - 240 Cubic Inches at 200 psi
- 40 Cubic Inches at 10,000 psi
Hydraulic Oil - IS0 32 for cold weather use
- IS0 68 for hot weather use or
Enerpac specified equivalent

Crimper: Output Force - 60 Tons
Stroke - 2-1/2"
Cylinder Effective Area - 12.56 Square Inches

Electrical Requirements: 115 Volt AC* Single Phase 60Hz

Lubrication: Molykote G, Gn Paste or E-Z Crimp L on die wearing surfaces. Only lubrication required.

INSTALLATION

Unpack the machine and verify you have received the following items.

- NP60 Crimper
- 6 Sets of dies marked as follows:
  .520 - Red 1.100 - Green
  .670 - Yellow 1.320 - Black
  .830 - Blue 1.730 - Silver
- .750 Steel Calibration Pin
- Pusher Plate
- Molykote Grease or E-Z Crimp L
- NP60 Instruction Book
- NP60 Crimp Specifications

Location of NP60 Crimper

The Crimper should be located in a well-lighted area on a sturdy bench or work table that is 28 to 34 inches high. Place unit as close as possible to 115 Volt AC outlet. (Avoid using extension cords if at all possible.) If extension cord is required it should not exceed 10 feet in length and be made of 12 gauge wire and be properly grounded.

Set-up

The NP60 Crimper is fully assembled, calibrated and ready to use. By following these few steps you will be ready to crimp.

- Check the oil in the pump reservoir to insure it is full of oil. Fill if necessary with recommended oil only.
- Open stem vent on the cap of the reservoir.
- Plug unit and light into 115 Volt AC outlet.

CALIBRATION CHECK

The unit is calibrated prior to shipment but a calibration check should be made to be certain the crimper is operating properly.

- Lubricate cone base with Molykote or E-Z Crimp L.
- Place .670 (Yellow) die set in cone. base
- Place .750 +/- .001 diameter steel pin in die set
- Position pusher plate on die
- Set thumb wheel setting to 82
- Depress "On" power switch
- Depress "Start" button and release
- Pusher will start down and engage the pusher plate
- Pressure will begin to build
- Pump automatically shuts off at 3 seconds
- Should more than 3 seconds elapse until pump shuts down, the unit needs recalibration and should be manually shut down by depressing stop button.
- Should less than 3 seconds elapse until pump shuts down - the unit needs recalibration.

Note: Each number on the thumb wheel represents .004" on crimp diameter.

RECALIBRATION

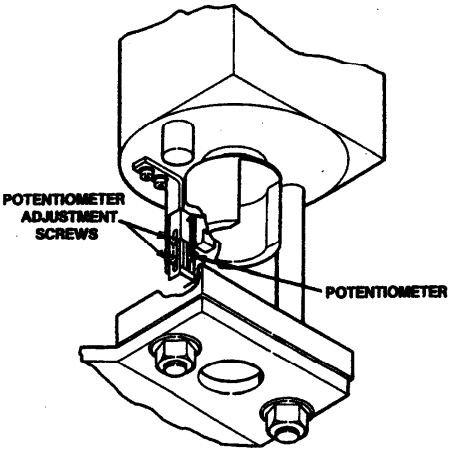
If the pump shut off exceeds 3 seconds –

- Loosen screws on the side of the potentiometer bracket and slide potentiometer upward approximately 1/32"
- Tighten screws

If the **pump** shuts off before 3 seconds –

- Loosen screws on the side of potentiometer bracket and slide potentiometer downward approximately
- Tighten screws.

When calibration check is correct proceed to crimp hose assembly.



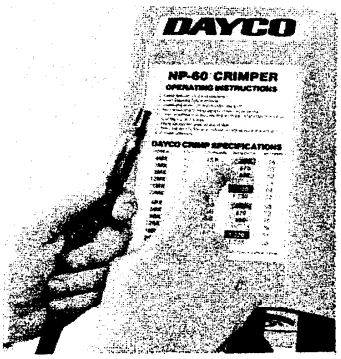
HOSE PREPARATION

- Select hose and coupling to be assembled.
- Cut hose to proper length. The hose cut length is determined by subtracting the cut-off factor for each coupling from the overall length of the assembly. For these factors see coupling information in the Parker catalog.
- Fasten the coupling securely in a vise with jaws on the hex nut. Hose assembly lubricant (HAL-16) should be brushed onto the coupling stem and on the inside of the hose before insertion. Push the hose onto the stem with a clockwise twisting motion until the hose bottoms out in the collar. To insure that the hose is bottomed in collar, mark the insertion depth on the hose before inserting it into the coupling. Your hose and coupling are now ready to be crimped.

CRIMPING

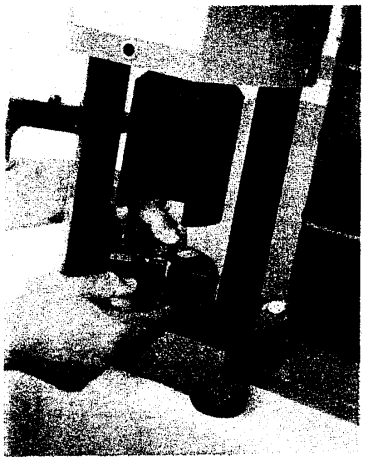
- Lubricate cone base with Molykote Grease or E-Z Crimp L

- Select the correct die set for the assembly from the Crimp Specification Chart or Parker Crimp Specification Guide

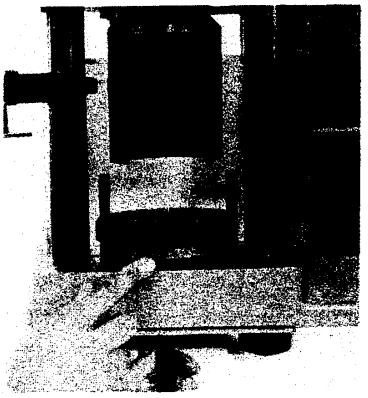


Select the proper crimp setting from the crimp specifications and enter this number on the thumb wheel of the Automatic Crimp Control. **Be aware that the settings are approximate due to manufacturing tolerances.**

- Place the die set in cone base



- Insert the hose assembly into die set with connector end up



Please Note: If Crimper was supplied with one piece solid ring dies or being used as optional equipment - only straight fittings can be used - No elbows.

One-Piece Coupling with Crimp Location Markings

Many couplings are provided with a knurl around the circumference of the ferrule. This knurl can be used for setting the length of the crimp on the coupling.

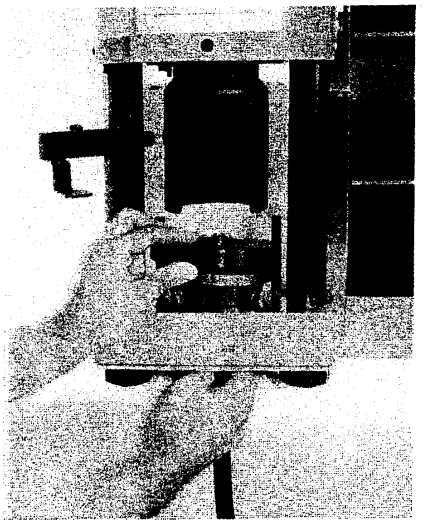
Looking down from the top of the die set, line up the knurl with the top of the die.

One-Piece Coupling without Crimp Location Markings

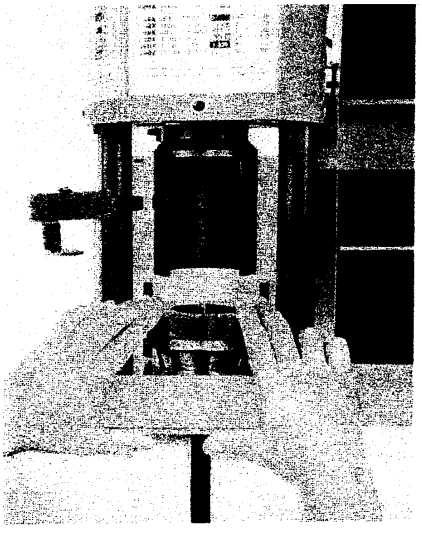
Select the crimp length required from the Par Crimp Specification Guide and mark the coupling accordingly with a marking pen, pencil or scribe. This mark is used for setting the length of the crimp on the coupling.

Looking down from the top of the die set, line up the mark with the top of the die.

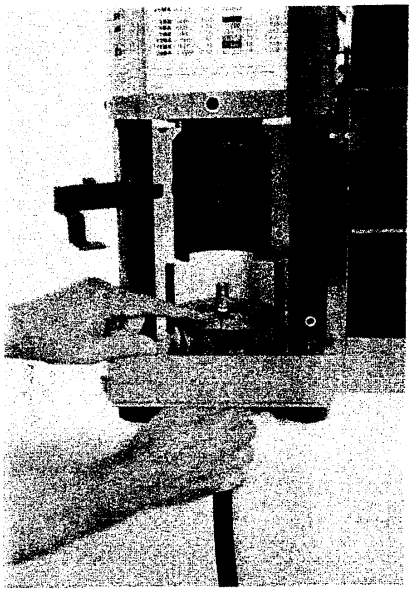
- Position pusher plate on die set



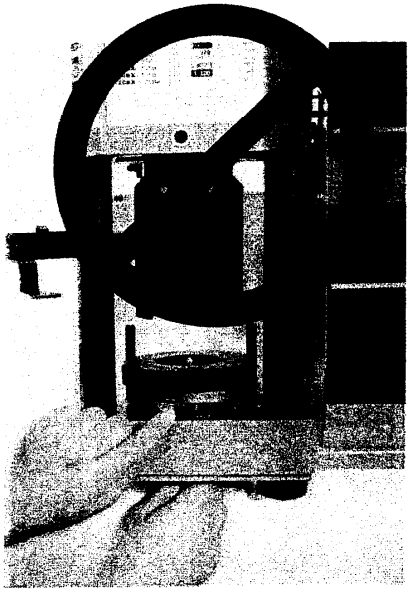
- Seat die set in cone base by firmly pushing downward on pusher plate



- Check for correct alignment of die set. Improper seating or overlapping of dies will result in damaged dies.



YES



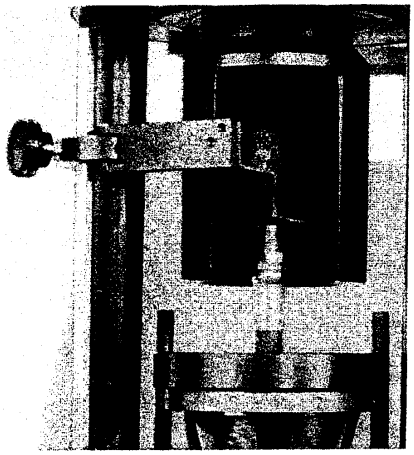
NO

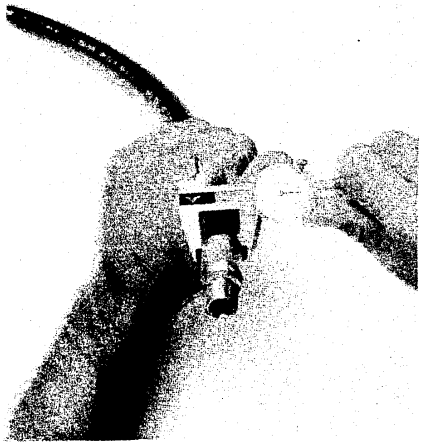
- Depress the “On” power button
- Depress the “Start” button
- Ram will engage pusher plate until the crimp setting is reached
- Pump will automatically shut off
- Ram returns to “Up” position
- Remove assembly

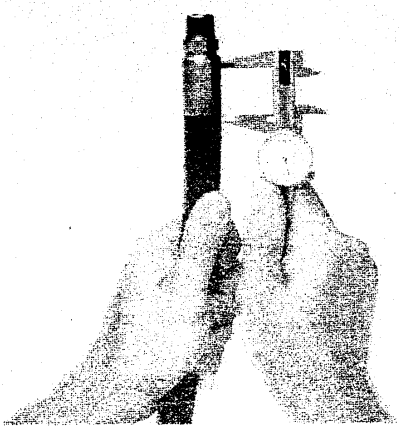
For Multiple Crimping of the Same Hose Assembly

(Production) Utilize Coupling stop. To adjust - Loosen knob and move stop to appropriate height where the fitting is just touching it. The scale setting on coupling stop can be noted in crimp specification book for future reference.

- Check crimp diameter and crimp length with dial caliper or micrometer to assure proper crimp specifications. Compare readings with NP60 Crimp Specification Guide allowing a crimp length tolerance of +/- .010" and a crimp O.D. tolerance of +/- .005".







IMPORTANT

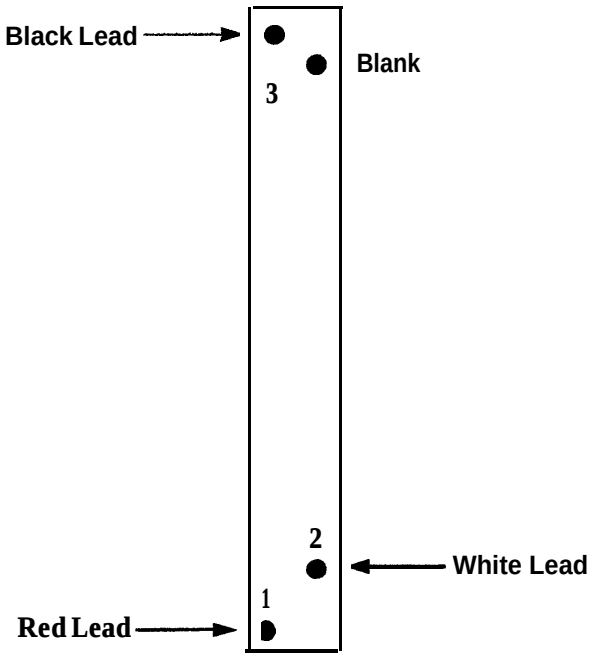
Due to machining tolerance on metal surfaces of dies and cone, finished crimp diameters may not be accurate on all sizes. To correct for slight variances the thumb wheel must be adjusted using these guidelines:

- Each number on the thumb wheel is equal to .004 of an inch difference on the crimp diameter.
- The higher the thumb wheel number, the tighter the crimp.
- The lower the thumb wheel number, the looser the crimp.

For example:
If, when coupling a 6MX hose and a 6SB Coupling using a .670 die and a scale setting of 82, you do not achieve a .750 crimp diameter - a thumb wheel adjustment is necessary . . . A crimp diameter of .746 requires the thumb wheel setting to be changed to 81. If the finished crimp diameter is .754 the thumb wheel setting should be changed to 83.

Troubleshooting: If Crimper doesn't complete crimp cycle or has other erratic behavior, replace potentiometer P/N POT-50K.

POTENTIOMETER WIRING DIAGRAM



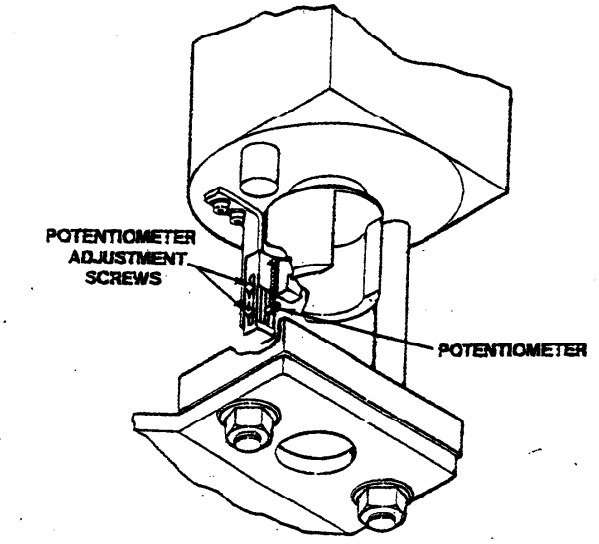
The calibration method for the EC30, NP30, NP60, and WB60 hydraulic hose crimping machines has changed. The previous method using the 3/4" diameter calibration rod (drawing number EN86-039) is being obsoleted.

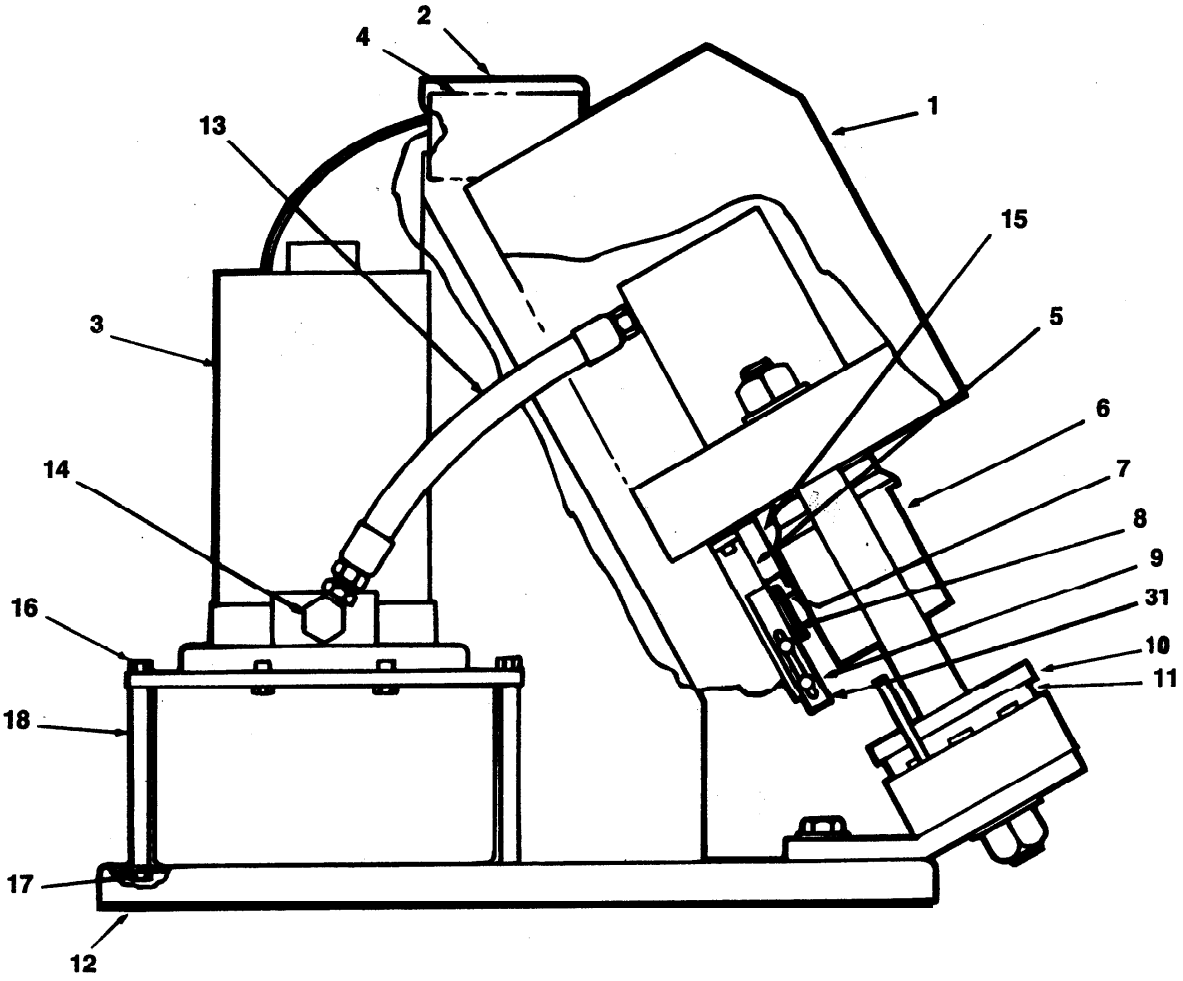
The new procedure is as follows:

1. Choose a hose/coupling combination and consult the Parker Approved Specification catalog for the proper die and setting.
2. Use the machine as specified in the manual to crimp the hose and fitting.
3. Using calipers that read to at Ieast .001" measure the four diameters (across the flats) and average. This is your crimp diameter. The measurements should be made halfway up the coupling.
4. Consult the Parker Approved Specification catalog for the target diameter of the crimp. If the crimp is within +/- .005", the machine is properly calibrated and no further cahbration needs to be done. If, however, the crimp is outside this range, calibration adjustment is necessary.
5. Calibration adjustment on the NP30, NP60 and WB60 is performed by either moving the linear potentiometer (on machines with the potentiometer on the back of the ram) or by adjusting the potentiometer actuator (on machines with the plunger-type potentiometer on the side). On the former, the potentiometer should be moved upward to loosen the crimp (increase the crimp diameter) and downward to tighten crimp (decrease the crimp diameter). On the plunger-type potentiometer machines, the actuator should be threaded (while holding the silver knurled knob) upward to tighten the crimp and downward to loosen the crimp.
6. After a small adjustment using the ahove method, check the machine by performing steps l-4 again.
7. Calibration is an iterative procedure and may require multiple hoses to be crimped before a crimp within the proper tolerance is reached. When a crimp is within +/- .005" of the published diameter, the machine is calibrated.

Calibration of the machine should be checked regularly (depending on use) by measuring the crimp diameters of hoses and verifying that they fall within the tolerance range.

Consider this as notice to the change in calibration methods for the above three machines. The EC30, NP60, and WB60 are obsolete and no longer in production, therefore the literature in the field will not be updated to reflect this change. Please retain this letter for your records and attach it to the instruction manual and any other place where the calibration method for the machine is posted.
If you have any questions regarding this procedure, call Parker Technical Services at 440-943-5700.

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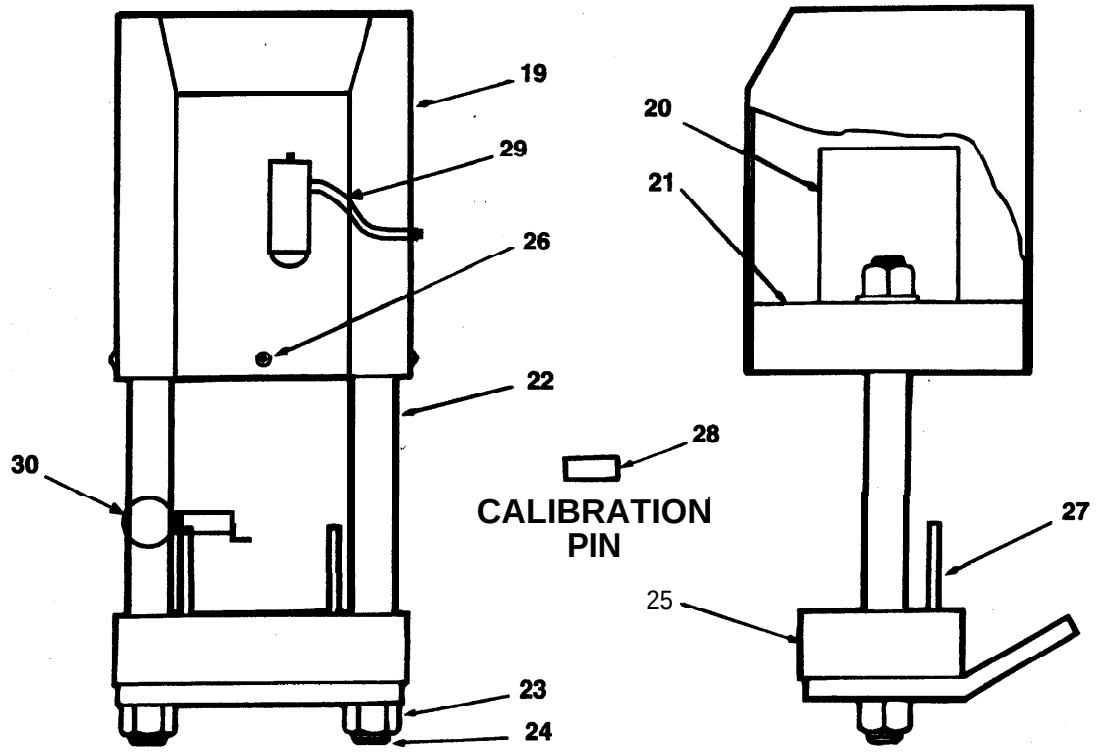
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CALIBRATION
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NP60 CRIMPER PARTS LIST

ITEM	PART NO.	DESCRIPTION	QUANTITY
1	EN84-066	NP60 Crimper Subassembly	1
2	EN84-039	Die Shelf Cover	1
3	EN84-114	Pump Assembly	1
4	WCS-240	Automatic Crimp Control	1
5	EN83-082	Potentiometer Support	1
6	EN84-106	Ram	1
7	EN84-035	Actuator	1
8	LE-022B-5	Spring (Lee Company)	1
9	EN83-076	Potentiometer Bracket	1
10	EN84-108	Pusher Plate	1
	EN88-047	Notched Pusher Plate For Elbow Couplings	1
11	STD	Crimp Dies	1
12	EN83-077	Base Plate	1
13	8HT6BW6NP-13-1/2	Hose Assembly -- Dayco	1
14	7W0340	90° Special Adapter	1
15	EN84-034	Actuator Guide	1
16	STD	Hex Bolt 1/4-2OUNC	4
17	STD	Hex Nut 1/4-2OUNC-Lockwasher 1/4" Nom.	9
18	EN83-079	Spacer	4
19	EN84-067	Shroud	1
20	EN84-077	Hydraulic Cylinder	1
21	EN84-069	Flange	1
22	EN84-072	Sleeve	2
23	STD	Hex Nut 1-1/4"-12UNF SAE Grade 8 High Strength	2
24	EN84-070	Strain Rod	2
25	EN84-071	Cone Base	1
26	STD	Hex Soc. Button HD. Cap Screw 1/4-2OUNC x 1/4" Long	5
27	STD	3/8 Diameter x 3-3/4" Long Expansion Pin	2
28	EN86-039	Calibration Pin .750	1
29	15-MC-901	Flexible Arm Light (Bulb Replacement is STD R14)	1
30	EN86-015	Coupling Stop	1
31	POT-50K	Potentiometer	1
	EN83-075	Dayco Decal	1
	EN83-055	Die Lubrication Decal	1
		MX/BX Crimp Spec. Decal Form #104548	1
		AX/FX Crimp Spec. Decal Form #104547	1

DIE SETS FOR NP60 CRIMPER

Split-Ring Straight-Crimp Dies

.350 Orange	EN98-020-09
.520 Red	EN98-020-01
.670 Yellow	EN98-020-02
.830 Blue	EN98-020-03
1.100 Green	EN98-020-04
1.320 Black	EN98-020-05
1.500 Brown	EN98-020-06
1.730 Silver	EN98-020-07
1.850 Orange	EN98-020-11
1.920 Purple	EN98-020-08

Solid-Ring Straight-Crimp Dies

.350 Orange	EN98-030-07
.520 Red	EN98-030-01
.670 Yellow	EN98-030-02
.830 Blue	EN98-030-03
1.100 Green	EN98-030-04
1.320 Black	EN98-030-05
1.500 Brown	EN98-030-09
1.730 Silver	EN98-030-06
1.850 Orange	EN98-030-10
1.920 Purple	EN98-030-11

LIMITED WARRANTY

NP60 is warranted to be free from defects in material and workmanship under normal operating conditions and recommended usage for a period of ninety (90) days from date of delivery. Any product which is shown to be defective shall be replaced or repaired free of charge or extended a credited refund of the original acquisition cost to purchaser. This limited warranty is contingent upon the conditions that prompt receipt of notice of any defect, that purchaser establish the product has been properly installed, maintained, and operated within the limits of related and normal usage as specified, and that upon request purchaser will return the defective product.

The terms of this limited warranty do not in any way extend to any product or part which have a life, under normal usage, inherently shorter than ninety (90) days.

THESE LIMITED WARRANTIES TO REPAIR OR REPLACE DEFECTIVE PRODUCTS AS SET FORTH ABOVE AND ANY ADDITIONAL WARRANTY EXPRESSLY STATED TO BE A WARRANTY AND SET FORTH IN WRITING ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANT ABILITY OR FITN,ESS FOR A PARTICULAR USE OR PURPOSE.

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