

# POWERNAIL® CO.

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## Operation and Maintenance Manual

### Models 445 XLL, XLS, LL, LS, SL, SS, & SN Pneumatic Powernailer®



For this parts list and other Powernailer schematics, please visit the  
Powernail Parts Store at <http://www.powernail.com>

### WARNING

Read this manual before you use this Nailer. Follow all safety warnings and instructions. Do not attempt any disassembly or repairs while the air line is connected. Always disconnect the air line first. Do not use excessive unregulated

air pressure. If you are uncertain about the operation of the Nailer, call us directly a 1-800-323-1653 for assistance or contact the closest Powernail® Dealer for help. Please retain this information for future reference.

REVISION G3-102709

## TO PREVENT ACCIDENTAL INJURIES:

Always wear approved front and side **EYE PROTECTION** when operating this Nailer.

Others in the work area should also wear front and side **EYE PROTECTION**. Eye protection will help guard against flying nails and debris, which could cause severe eye injury.

**EAR PROTECTION** may be required to prevent hearing damage when there are high noise levels in the work area.

Always **DISCONNECT THE AIR SUPPLY** before making any adjustments, repairing, clearing jams or when the Nailer is not in use.

Never attach the female end of a quick disconnect to the Nailer. This will trap air inside the Nailer and permit it to be discharged. Only the unrestricted male connection should be attached to the Nailer.

Use only regulated compressed air, do not use bottled gases of any kind to power this Nailer. Normal air pressure should not exceed 120 psi or damage to the Nailer and seals may occur. Excess air pressure can cause the Nailer to explode.

**THE TRIGGER IS A SAFETY DEVICE** and should only be pulled when the Nailer is in proper position on the work surface and before the plunger is struck with the mallet. Do not tie or tape down the safety trigger as the Nailer could discharge if dropped on the plunger. The Nailer will not fire unless the trigger is pulled before the mallet blow.

Do not use the trigger safety as a lock up for the plunger then rack the wood using the locked up Nailer body. It will severely damage the mechanism and the Nailer. Use the mallet to rack the wood strip, not the Nailer.

**DO NOT USE THE METAL END OF THE MALLET TO STRIKE THE PLUNGER**, use the rubber capped end only.

Never place any part of the body in the discharge path of the Nailer when air is connected to the Nailer. Always make sure Nailer is empty of cleats before connecting air hose so as to prevent any accidental discharge from occurring.

Never leave the Nailer unattended while it is connected to an air supply.

## DESCRIPTION

The Powernailer® Model 445 Mallet Actuated Pneumatic Nailer is the latest model designed to bring Powernail quality to a pneumatic Nailer. For those looking for the ease of use of a pneumatic tool, the Powernailer Model 445—designed for use with 1-1/2", 1-3/4" and 2" Powercleats® nails—provides several distinct advantages. Like our Model 45, the Model 445 can nail down 1/2", 3/4" and 33/32" tongue and groove hardwood flooring through the use of easy-to-change, no-mar adapter plates.

To use the Model 445, simply snug up the flooring with the rubber mallet, pull the safety trigger and tap the plunger with the rubber capped mallet end and let the Nailer drive and set the nail at the correct 45 degree angle.

For a superior pneumatic Nailer, look to the company that has been the industry's quality leader for over 50 years, **POWERNAIL® COMPANY, INCORPORATED**.

For Step-by-Step  
Videos and Instructions,  
Visit our Web Site at: [www.Powernail.com](http://www.Powernail.com)

# OPERATION

Read these instructions carefully before you use the Nailer.

## WARNING

Whenever air is connected to the Nailer, keep body parts away from the nail discharge path. Disconnect the air line before making adjustments or repairs on the Nailer. Only connect air to an unloaded Nailer so as to prevent accidental discharge.

Consult the drawing for the appropriate adapter pad to use with the thickness of flooring you are installing.

Rack the flooring into place with the rubber end of the mallet supplied with the Nailer

Place the Nailer Adapter Foot on the tongued edge of the flooring strip to be nailed. Be sure the Adapter Foot is pressed tightly against the edge of the flooring strip above the tongue.

Be sure flooring strips are racked tightly. Pull the Safety Trigger and tap the Nailer Plunger Rubber Cap with the rubber capped end of the mallet to discharge the Nailer.

## WARNING

It is not necessary to hit the Nailer hard to activate it. Never hit the Nailer with excessive force or with the metal end of the mallet, this will damage the Nailer.

Never use the Safety Trigger interlock to lock up the plunger and rack the wood with blows to the Nailer body. This will severely damage the safety mechanism and Nailer. This abuse and damage is not covered by the warranty.

Before each use check all screws to be sure they are tight. Shock and vibration can loosen screws. Do not over tighten any screw.

### AIR SUPPLY:

The air must be clean and dry. Dirty and/or wet air will damage the Nailer. A combination filter-regulator-lubricator is required for proper Nailer performance and should be placed close to the Nailer per manufacturers' recommendations.

Drywall Dust:

- Using Pneumatic Powernailers in drywall dust conditions will dramatically decrease the life of the Nailer.
- Drywall dust is abrasive, when cycled through the Nailer it will cause excessive wear.

Fill the lubricator with a high-quality Air Tool Oil. Adjust the lubricator to the manufacturers' recommendations. Do not over oil the Nailer, as excess oil will be discharged with the spent air and could stain the wood flooring, walls or furnishings.

**We will not be responsible for oil stains.**

## WARNING

Detergent oil is not recommended and may damage the seals. Consult the filter regulator lubricator manufacturer's recommendations for proper operation, settings and unit maintenance.

The air source must continuously deliver 100 to 120 psi and 3-1/2 cubic feet of air per minute to operate the Nailer Connect a 1/4" minimum internal diameter and clean air hose to the Nailer. Be sure the air regulator is set at 90 psi. If the nail is not countersunk below the surface of the wood, turn up the air pressure, but not over 120 psi.

Check for air supply leaks that waste air and starve the Nailer of air thereby reducing its performance. There should be no orifice smaller than 1/4" in the air path between the Regulator and the Nailer.

### LUBRICATION:

If you do not use an in line lubricator, you must lubricate the Nailer manually. The frequency of lubrication is dependent upon the duty cycle of the Nailer. Continuous duty requires more frequent oiling than intermittent duty.

At least every eight (8) hours place two to four drops of Air Tool Oil, supplied with your Nailer, into the disconnected air line male connector attached to the Nailer.

## WARNING

Do not over lubricate the Nailer, excess oil mist or drops will be vented with spent air when over lubricated. Excess oil could stain the wood flooring, walls or furnishings. Dry fire the Nailer, without nails, to purge excess oil, before you begin to nail down flooring.

**We will not be responsible for oil stains.** Before storing the Nailer, lubricate and cycle the Nailer in insure internal parts are oil protected from corrosion.

**TO LOAD MODEL 445 XLL, LL or SL:**

Place up to two sticks (200 Powercleats) into the Nail Channel feed slot. Pull back the spring loaded Nail Pusher over the nails until it contacts the last nail and slowly release the Nail Pusher.

**TO LOAD MODEL 445 XLS, LS or SS:**

Place one stick (100 Powercleats) into the Nail Channel feed slot.

**TO LOAD MODEL 445 SN:**

Place 1/2 stick (50 Powercleats) into the Nail Channel feed slot.

**TO UNLOAD:**

To remove nails from the Nail Channel, pull the two round knobs on the Nail Pusher together. This will clear it from the nail path. Then turn the Nailer over so the nails slide out of the channel.

**WARNING**

Do not use any nails other than Powernail Powercleats Nails, which are specifically designed for use in any Powernailer. Powercleats Nails are available in various lengths to accommodate any flooring thickness. Contact your Powernail Dealer for Powercleats Nails.

**PARTS & SERVICE:**

When ordering parts include the part number, part description, Powernailer model and serial number. Be sure to state the quantity of the part(s) required. Contact your Powernail Dealer for the necessary parts.

**WARNING**

Never work on the Nailer if the air line is attached. Always disconnect the air line from the Nailer first.

**NAILER DISASSEMBLY:****TO REPLACE RUBBER BUMPER (#20 or #65):**

1. Disconnect the air supply
2. Remove the four (4) cap screws holding the Adapter Foot, Foot and Nail Channel assembly to the main Body (see illustration).
3. Pull the Rubber Bumper out of the cylinder bore. Replace the old Bumper if it shows signs of wear or it is split.
4. Reverse these steps to reassemble the Nailer. Be sure to align the Driving Blade with the slot in the Nail Channel Assembly while you reassemble the Nailer.

NEVER FIRE THE NAILER WITHOUT THE RUBBER BUMPER INSTALLED, IT WILL SEVERELY DAMAGE THE NAILER.

**TO REPLACE DRIVING BLADE (#14):**

1. Disconnect the air supply.
2. Remove the four socket head cap screws holding the Adapter Foot, Foot and Nail Channel Assembly to the body.
3. Remove the Rubber Bumper.
4. Pull the Driving Blade with pliers until the Piston is fully extended outward towards the bottom of the cylinder.
5. Use the 15/16" box wrench supplied to unscrew the Driving Blade Jam Nut and remove it. Hold the Piston from turning while unscrewing the Jam Nut by holding the piston hex with the 1-1/8" box wrench supplied.
6. Push out the 1/4" diameter blade retaining Dowel Pin and remove the broken Driving Blade stub.
7. Install a new Driving Blade in the slot and replace the Dowel Pin. Screw on the retaining Jam Nut using the same tools. If the Jam Nut becomes worn and loose after frequent removals, it should be replaced.
8. Check the fit, there should be some sideways movement between the Driving Blade and the Jam Nut assembly. This is desirable and helps the blade to align itself with the mating parts.
9. Reassemble the components. Be sure to align the Driving Blade with the slot in the Adapter Foot Assembly.

**SEAL REPLACEMENT:**

There are 7 seals that may require replacement. We recommend that you have your POWERNAIL Dealer replace the Seals.

**SEAL KIT:**

You may choose to buy a Seal Replacement Kit and replace the seals yourself. It is good practice to replace all seals at one time regardless if only one seal needs replacement.

**SEAL DESCRIPTION & NUMBER:**

1. Rubber Seat (#19)
2. Plunger Seal Set (#21)
3. Piston U-Cup Lip Seal (#22)
4. Return Cylinder U-Cup Lip Seal (#23)
5. Piston Rod U-Cup Lip Seal (#24)

6. Plunger Wiper Seal (#25)
7. Return Cylinder O-Ring Gasket (#26)

To change Seals follow these procedures. Be sure the air line is disconnected from the Nailer first before making any repairs.

Consult the illustration for the name and location of the following component parts.

#### **DRIVING BLADE ASSEMBLY REMOVAL:**

1. Disconnect the air supply.
2. Remove Rubber Plunger Cap (#18).
3. Unscrew & remove Body Cap (#2).
4. Push Safety Yoke (#8) aside and unscrew the three #10-32 cap screws holding the Plunger (#12) to the Return Cylinder (#11).
5. Pull the Plunger up and out of the Nailer Body (#1) cavity.
6. Remove the Return Cylinder O-Ring Gasket (#26) located on the top of the Return Cylinder under the Plunger.
7. Turn the Nailer over and remove the four cap screws (#50), that fasten the Adapter Foot and Nail Channel Assembly to the Nailer Body and lift the Assembly off the Body.
8. Remove the Rubber Bumper (#20 or #65).
9. Pull the Driving Blade Assembly out of the Nailer Body by pulling on the Driving Blade.
10. Hold the Piston Rod (#9) with an 11/16 socket over its hex end opposite the Piston. **Do not use pliers or a vise anywhere on the metal parts, they can damage the sealing surfaces.**
11. Use the supplied box wrenches to remove the 5/8-18 Jam Nut (#51). Remove the Dowel Pin (#38) and Driving Blade (#14).
12. Unscrew the Piston from the Piston Rod using the supplied box wrenches and separate the Piston, Piston Rod and Return Cylinder

#### **TO REPLACE THE SEALS:**

##### **Rubber Seat (#19):**

1. Remove the Cylinder Sleeve (#13). The Cylinder Sleeve should slide out of the Nailer Body when you pull out the Driving Blade Assembly.
2. Remove the metal Support Ring (#17) and Rubber Seat from inside the Nailer body. Note that the chamfer on the inside of the Rubber Seat faces the BOTTOM of the Nailer, do not reverse the

direction of the chamfer when you replace the Rubber Seat.

3. Replace the Rubber Seat, Support Ring and Cylinder Sleeve. Be sure to re install the steel Cylinder Sleeve with the chamfered inside edge facing the BOTTOM of the Nailer

##### **Plunger Seal Set (#21):**

1. Remove the Teflon<sup>®</sup> Seal and its O-Ring expander from the groove using a bent paper clip or pick. Be sure not to scratch the inside walls of the seal groove with the wire hook.
2. Clean out the seal groove. Place a new O-Ring into the seal groove by stretching it over the Plunger body. Make sure the O-Ring is not twisted in the groove. Place a new Teflon<sup>°</sup> Seal Ring into the seal groove over the O-Ring.
3. Carefully push the Teflon<sup>®</sup> Seal Ring over the edge of the Plunger with your thumbs and into the groove. Do this as quickly as possible to reduce stretching of the Teflon<sup>®</sup> Seal Ring. **DO NOT OVER STRETCH THE TEFLON<sup>®</sup> SEAL RING!** Be sure the Teflon<sup>®</sup> Seal Ring is centered all around the seal groove and not twisted.

4. Wipe off the Seal surface with a clean rag and lubricate it generously with the supplied Mobile DTE Light Air Tool Oil lubricant.

##### **Piston U-Cup Lip Seal (#22):**

1. Remove the old Piston U-Cup Lip Seal from the Piston using a bent paper clip or pick, being careful not to scratch the inside walls of the seal groove or the edge of the Piston with the wire hook.
2. Clean out the seal groove. Place a new U-Cup Lip Seal into the groove. Make sure the lips is not twisted in the groove and the lips face the top of the Nailer See the sketch below.
3. Carefully wipe off the U-Cup Lip Seal surface with a clean rag and lubricate it generously with the supplied Mobile DTE Light Air Tool Oil lubricant.

##### **Return Cylinder U-Cup Lip Seal (#23):**

1. Use a bent paper clip or pick to remove the old U-Cup Lip Seal from the internal seal groove inside the Return Cylinder. Be careful not to scratch the inside walls of the seal groove with the wire hook.
2. Clean out the seal groove. Place a new U-Cup Lip Seal into the groove, be sure it is not twisted in the groove. Be sure the lips are facing the inside of the Return Cylinder as shown in the sketch below.

## **WARNING**

The U-Cup Lip Seals #23 and #24 look alike, but they are different, DO NOT mix them up.

3. Carefully wipe off the Lip Seal surface with a clean rag and lubricate it generously with the supplied Mobile DTE Light Air Tool Oil lubricant.

### **Piston Rod U-Cup Lip Seal (#24):**

1. Remove the old U-Cup Lip Seal from the seal groove with a bent paper clip or pick using care not to scratch the inside walls of the seal groove with the wire hook.

2. Clean out the seal groove and install a new U-Cup Lip Seal. Be sure the Lips are facing the right direction and are not twisted in the groove. See the sketch below.

## **WARNING**

The Lip Seals #23 and #24 look alike, but they are different, DO NOT mix them up.

3. Carefully wipe off the seal surface with a clean rag and lubricate it generously with the supplied Mobile DTE Light Air Tool Oil lubricant.

### **Plunger Wiper Seal (#25):**

1. Use a bent paper clip to pick out the felt Wiper Seal out of its groove in the Body Cap (#2).

2. Clean out the groove and insert a new felt Wiper Seal. Saturate the new felt Wiper Seal with oil.

### **Return Cylinder O-Ring Gasket (#26):**

1. Place a new O-Ring Gasket in the groove on top of the Return Cylinder when you reassemble the Driving Blade Assembly.

2. Wipe off the O-Ring Gasket seal surface and lubricate it generously with the supplied Mobile DTE Light Air Tool Oil lubricant.

### **REASSEMBLING THE NAILER:**

1. Be sure the Rubber Seat, Support Ring and Cylinder are installed in the Body and are facing the correct way.

2. All seal surfaces must be clean and lubricated generously with the supplied Mobile DTE Light Air Tool Oil lubricant.

Replace any part that shows signs of wear.

3. Use care when installing the seals into their

respective cavities. Be sure the Seals are contained in their groove and do not come out as the parts slide together. Generous cavity lead in chamfers have been provided to help Seal installation.

4. Carefully insert the Piston Rod into the return Cylinder and screw the Piston onto the rod. Be sure the Piston is facing the correct way, ears up, hex down.

5. Assemble the Driving Blade, Dowel Pin and Jam Nut on to the Piston Rod.

6. Insert the Driving Blade Assembly up into the bottom of the Nailer Body Cylinder.

7. Be sure there is a new O-Ring Gasket in the top groove of the Return Cylinder.

8. Insert the Plunger into the top cavity of the Body. Line up the holes and install the three Plunger retaining screws. It is important that the three #10-32 screws are tight or air leakage will occur.

9. Position the Safety Yoke in the Plunger groove.

10. Install the Body Cap and Plunger Rubber Cap.

11. Turn the Nailer upside down. Install the Rubber Bumper, Nail Channel Assembly and Adapter Foot. Be sure to align up the Driving Blade with the slot in the Foot before the Nailer is closed up.

12. NEVER FIRE THE NAILER WITHOUT THE RUBBER BUMPER INSTALLED, IT WILL DAMAGE THE NAILER.

### **TO CLEAR A NAIL JAM:**

1. It helps to tap the Driving Blade back to the retracted position before trying to remove a jammed nail. A spare Driving Blade works best for this.

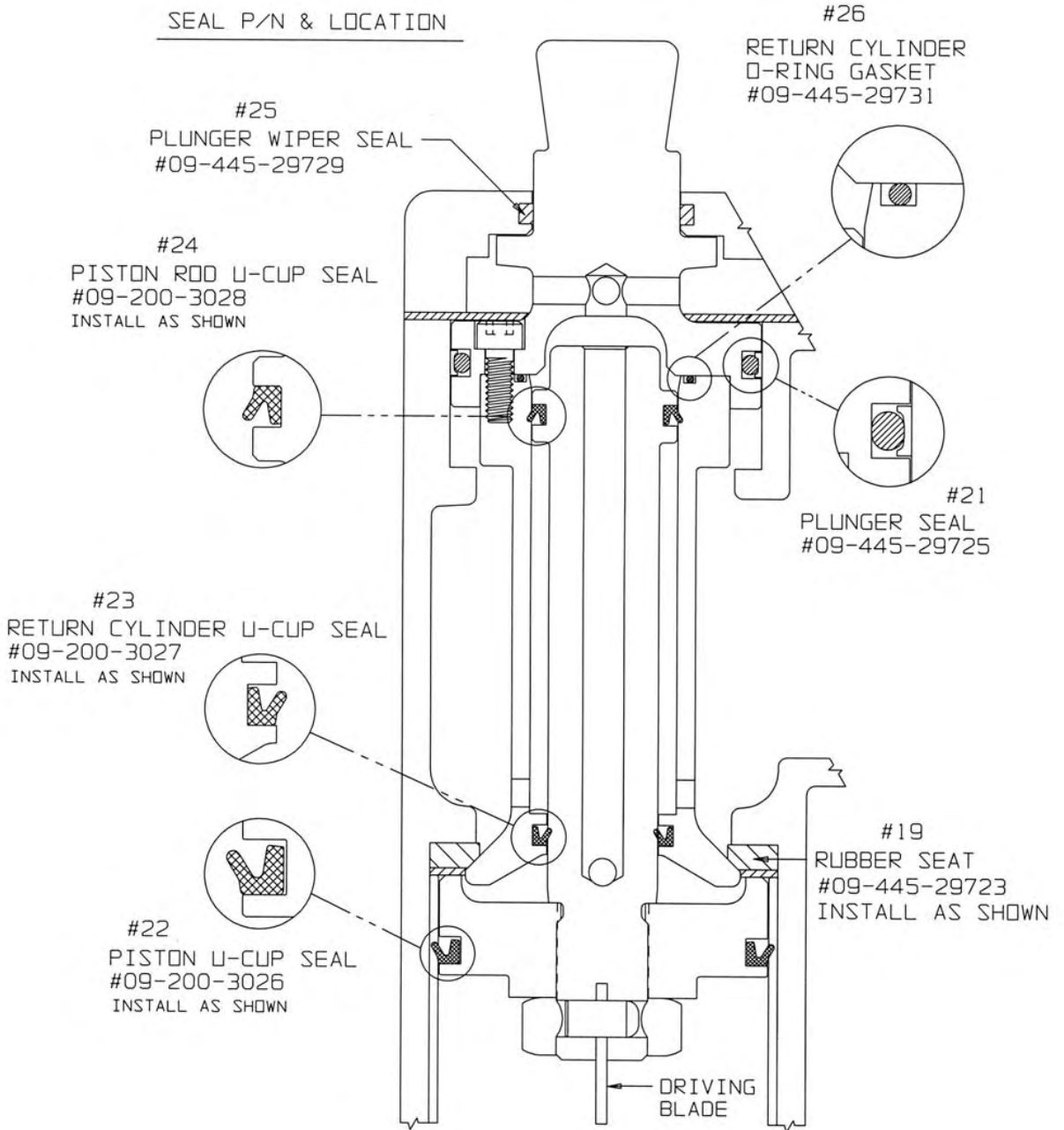
2. Try to pull the jammed nail out of the gate with a pair of long nose pliers. If this does not work remove the four (4) cap screws holding the Foot, Gate and Nail Channel Assembly together.

3. Separate the Foot and gate with a screw driver just enough to clear out the jammed nail.

4. Put thread locking compound on all screws and reassemble the components.

For Step-by-Step  
Videos and Instructions,  
Visit our Web Site  
at: [www.Powernail.com](http://www.Powernail.com)

# Pneumatic Seal Part Numbers and Locations



## MODELS 445 XLL, XLS, LL, LS, SL, SS & SN PARTS LIST

| ITEM # | PART NO.       | DESCRIPTION  | QTY. REQ'D | Key   | Assembly or Kit |
|--------|----------------|--|------------|-------|-----------------|
| 1      | 09-445-29701   | BODY   | 1          |       | N/A             |
| 2      | 09-445-29702   | CAP  | 1          | S     |                 |
| 3      | 09-445-29703   | HANDLE, LONG   | 1          | A     | A-6             |
| 4      | 09-445-29703.1 | HANDLE, SHORT  | 1          | A     | A-7             |
| 5      | 09-445-29704   | HANDLE, HALF   | 1          | A     | A-6/A-7/A-19    |
| 6      | 09-445-29705   | ADAPTER FOOT   | 1          | S     |                 |
| 7      | 09-445-29706   | FOOT   | 1          | S/A   | A-8/A-9/A-16    |
| 8      | 09-445-29707   | SAFETY YOKE  | 1          | S     |                 |
| 9      | 09-445-29710   | PISTON ROD   | 1          | S/A   | A-11            |
| 10     | 09-445-29711   | PISTON   | 1          | S/A   | A-11            |
| 11     | 09-445-29830   | RETURN CYLINDER                                      | 1          | S/A   | A-11            |
| 12     | 09-445-29831   | PLUNGER  | 1          | S     | A-11            |
| 13     | 09-445-29715   | CYLINDER SLEEVE                                      | 1          | S     |                 |
| 14     | 09-445-29718   | DRIVING BLADE  | 1          | S/A   | A-11            |
| 15     | 09-445-29719   | BODY PLATE (.062 Thick)                              | 1          | S     |                 |
| 16     | 09-445-29720   | TRIGGER  | 1          | S/A   | A-6/A-7/A-19    |
| 17     | 09-445-29721   | SUPPORT RING   | 1          | S     |                 |
| 18     | 09-445-29722   | RUBBER CAP   | 1          | S     |                 |
| 19     | 09-445-29723   | RUBBER SEAT  | 1          | S/K/A | A-5/A-11        |
| 20     | 09-445-29724   | RUBBER BUMPER  | 1          | S     |                 |
| 21     | 09-445-29725   | PLUNGER SEAL SET                                     | 1          | S/K/A | A-5/A-11        |
| 22     | 09-200-3026    | PISTON U-CUP SEAL                                    | 1          | S/K/A | A-5/A-11        |
| 23     | 09-200-3027    | RETURN CYLINDER U-CUP SEAL                           | 1          | S/K/A | A-5/A-11        |
| 24     | 09-200-3028    | PISTON ROD U-CUP SEAL                                | 1          | S/K/A | A-5/A-11        |
| 25     | 09-445-29729   | PLUNGER WIPER SEAL                                   | 1          | S/K/A | A-5             |
| 26     | 09-445-29731   | RETURN CYLINDER O-RING GASKET                        | 1          | S/K/A | A-5/A-11        |
| 27     | 09-445-29732   | TRIGGER CABLE, LONG                                  | 1          | S/A   | A-6             |
| 28     | 09-445-29732.1 | TRIGGER CABLE, SHORT                                 | 1          | S/A   | A-7             |
| 29     | 09-445-29733   | SAFETY YOKE SPRINGS                                  | 2          | S     |                 |
| 30     | 09-445-29734   | NAIL PUSHER SPRING                                   | 1          | A     | A-10            |
| 31     | 09-445-29734.1 | SPOOL (FOR NAIL PUSHER SPRING)                       | 2          | A     | A-10            |
| 32     | 09-445-29735   | NAIL PUSHER  | 1          | S/A   | A-10            |
| 33     | 09-445-29735.2 | NAIL PUSHER KNOB                                     | 1          | S/A   | A-10            |
| 34     | 09-445-29736   | 1/2" ADAPTER PAD (ACCESSORY)                         | 1          | S     | A-1             |
| 35     | 09-445-29737   | 5/8" ADAPTER PAD (STANDARD)                          | 1          | S     | A-2             |
| 36     | 09-445-29738   | 3/4" ADAPTER PAD (STANDARD)                          | 1          | S/A   | A-3             |
| 37     | 09-445-29739   | 1/4" x 3/4" DOWEL PIN (TRIGGER)                      | 1          | S     |                 |
| 38     | 09-445-29740   | 1/4" x 1/2" DOWEL PIN (DRV. BLADE)                   | 1          | S     | A-11            |
| 39     | 09-445-29815   | HANDLE, EXTRA LONG                                   | 1          | A     | A-19            |
| 40     | 09-445-29816   | TRIGGER CABLE, EXTRA LONG                            | 1          | S/A   | A-19            |
| 41     | 09-445-29817   | NAIL CHANNEL, LONG                                   | 1          | A     | A-8             |
| 42     | 09-445-29818   | NAIL CHANNEL, SHORT                                  | 1          | A     | A-9             |
| 43     | 09-445-29820   | GATE PLATE   | 1          | S/A   | A-8/A-9/A-16    |
| 44     | 09-445-29821   | GATE   | 1          | S/A   | A-8/A-9/A-16    |
| 45     | 09-445-29741   | 1/8" x 5/8" ROLL PIN (GATE)                          | 2          | S     |                 |
| 46     | 09-445-29742   | 1/4-20 x 7/8" S.H.C.S. (SN AND XL ONLY)              | 1          | S     |                 |
| 47     | 09-445-29743   | 1/4-20 x 1" S.H.C.S. (COVER)                         | 4          | S     |                 |
| 48     | 09-445-29744   | 1/4-20 x 3/4" S.H.C.S. 4 W/PATCH, 2 WITHOUT (HANDLE) | 6          | S     |                 |
| 49     | 09-445-29745   | #10-32 x 1-1/4" S.H.C.S. (KNOB)                      | 1          | S     | A-10            |
| 50     | 09-445-29747   | 1/4-20 x 1-1/4" S.H.C.S. (FOOT)                      | 4          | S     |                 |
| 51     | 09-445-29748   | 5/8-18 JAM NUT (DRV. BLADE)                          | 1          | S     | A-11            |
| 52     | 09-445-29750   | #8-32 x 1-1/2" F.H.C.S. (SPACER)                     | 2          | S     |                 |

KEY: S=Sold Separately, A= Sold as part of assembly, K=Sold as part of a Kit



## MODELS 445 XLL, XLS, LL, LS, SL, SS & SN PARTS LIST

| ITEM # | PART NO.       | DESCRIPTION                           | QTY. REQ'D | Key | Assembly or kit |
|--------|----------------|---------------------------------------|------------|-----|-----------------|
| 53     | 09-445-29751   | #8-32 LOCKNUT (SPACER)                | 2          | S   |                 |
| 54     | 09-445-29754   | #10-32 x 1/2" S.H.C.S. w/Patch (FOOT) | 4          | S   |                 |
| 55     | 09-445-29832   | #10-32 x 3/4" S.H.C.S. (PLUNGER)      | 3          | S   | A-11            |
| 56     | 09-445-29756   | 1/4" x 1" SPACER (CHANNEL)            | 2          | S   |                 |
| 57     | 09-445-29757   | 1/4-20 x 1/2" F.H.C.S. W/PATCH (PAD)  | 3          | S   |                 |
| 58     | 09-445-29758   | 1/4" SPLIT RING LOCK WASHER (FOOT)    | 4          | S   |                 |
| 59     | 09-445-29759   | 3/8" NPT 45° STREET ELBOW             | 1          | S   |                 |
| 60     | 09-445-29760   | #8-32 x 1/4" B.H.C.S. (CABLE)         | 1          | S   |                 |
| 61     | 09-445-29790   | SN NAIL CHANNEL                       | 1          | A   | A-16            |
| 62     | 09-445-29791   | SN 3/8" NPT 90° STREET ELBOW          | 1          | S   |                 |
| 63     | 09-445-29792   | SN #10-32 x 3/8" F.H.C.S. (PAD)       | 4          | S   |                 |
| 64     | 09-445-29795   | SN TRIGGER CABLE                      | 1          | S/A | A-17            |
| 65     | 09-445-29796   | SN RUBBER BUMPER                      | 1          | S   |                 |
| 66     | 09-445-29797   | SN NO MAR PAD                         | 1          | S   |                 |
| 67     | 09-445-29798   | SN HANDLE                             | 1          | A   | A-17            |
| 68     | 09-445-29799   | SN ADAPTER FOOT                       | 1          | S   |                 |
| 69     | 09-445-29822   | #10-32 x 3/4" S.H.C.S. W/PATCH (GATE) | 4          | S   |                 |
| 70     | 09-445-29836   | #10-32 x 3/8" S.H.C.S. (GATE)         | 2          | S   |                 |
| 71     | 09-445-29819   | .030 PLASTIC SHIM                     | 2          | S   |                 |
| 72     | 09-445-29738.1 | 22mm ADAPTER PAD                      | 1          | S   |                 |

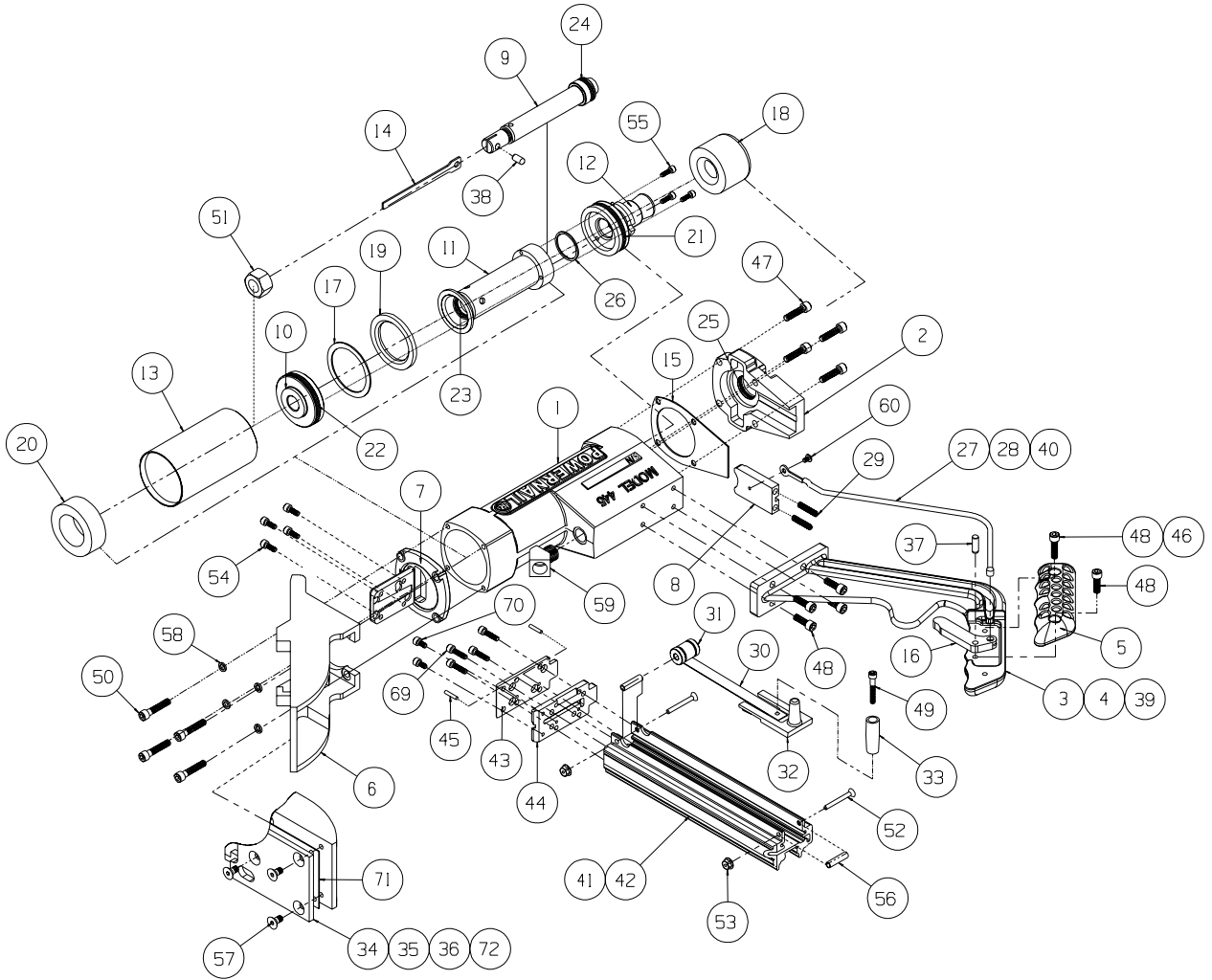
### Assemblies, Kits & Accessories

| ITEM # | PART NO.         | DESCRIPTION                                 | QTY. REQ'D | Key | Assembly or kit |
|--------|------------------|---|------------|-----|-----------------|
| A-1    | 09-445-29736     | 1/2" ADAPTER PAD                            | 1          | S   |                 |
| A-2    | 09-445-29737     | 5/8" ADAPTER PAD                            | 1          | S   |                 |
| A-3    | 09-445-29738     | 3/4" ADAPTER PAD                            | 1          | S   |                 |
| A-4    | 09-445-29757A    | 8 OZ. AIR TOOL OIL                          | 1          | S   |                 |
| A-5    | 09-200-3058A     | SEAL KIT (1 EACH OF ALL SEALS)              | 1          | S   |                 |
| A-6    | 09-445-29759A    | LONG HANDLE ASSEMBLY                        | 1          | S   |                 |
| A-7    | 09-445-29760A    | SHORT HANDLE ASSEMBLY                       | 1          | S   |                 |
| A-8    | 09-445-29761A    | LONG NAIL CHANNEL ASSEMBLY                  | 1          | S   |                 |
| A-9    | 09-445-29762A    | SHORT NAIL CHANNEL ASSEMBLY                 | 1          | S   |                 |
| A-10   | 09-445-29763A    | NAIL PUSHER ASSEMBLY                        | 1          | S   |                 |
| A-11   | 09-445-29764A    | DRV. BLADE ASSEMBLY W/RUBBER SEAT           | 1          | S   |                 |
| A-12   | 09-445-29765     | 3/8" x 50FT. RUBBER HOSE W/FITTINGS         | 1          | S   |                 |
| A-13   | 09-445-29766     | 3/8" M&F COUPLING SET                       | 1          | S   |                 |
| A-14   | 09-445-29767     | HOSE CLAMP                                  | 1          | S   |                 |
| A-15   | 09-445-29768     | BOX WRENCH                                  | 2          | S   |                 |
| A-16   | 09-445-29769A    | SN NAIL CHANNEL ASSEMBLY                    | 1          | S   |                 |
| A-17   | 09-445-29770A    | SN HANDLE ASSEMBLY                          | 1          | S   |                 |
| A-19   | 09-445-29824A    | EXTRA LONG HANDLE ASSEMBLY                  | 1          | S   |                 |
| A-20   | 09-445-5421      | AIR GAUGE                                   | 1          | S   |                 |
| A-21   | 09-445-5421R     | FILTER REGULATOR GAUGE                      | 1          | S   |                 |
| A-24   | AW-445           | ALLEN WRENCH SET                            | 1          | S   |                 |
| A-25   | 09-445-TU-KIT    | MODEL XLL, XLS, LL, LS, SL, SS TUNE UP KIT  | 1          | S   |                 |
| A-26   | 09-445SN-TU-KIT  | SURFACE NAILER TUNE UP KIT                  | 1          | S   |                 |
| A-27   | 09-445-OVH-KIT   | MODEL XLL, XLS, LL, LS, SL, SS OVERHAUL KIT | 1          | S   |                 |
| A-28   | 09-445SN-OVH-KIT | SURFACE NAILER OVERHAUL KIT                 | 1          | S   |                 |
|        | 06-99420         | NAILER SHOE                                 | 1          | S   |                 |

KEY: S=Sold Separately, A= Sold as part of assembly, K=Sold as part of a Kit

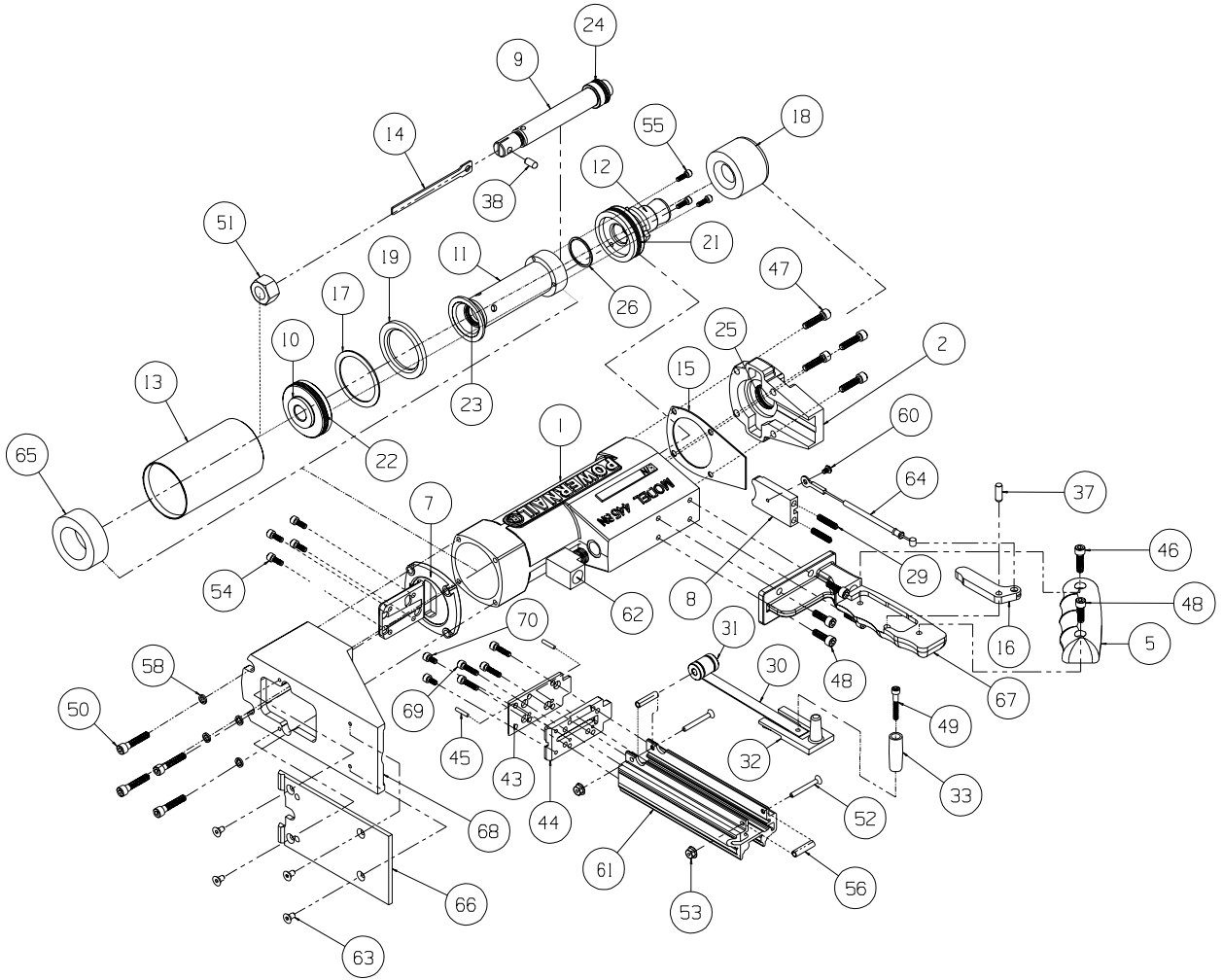
# SCHEMATIC

## MODELS 445 XLL, XLS, LL, LS, SL, and SS



# SCHEMATIC

## 445 SN SURFACE NAILER

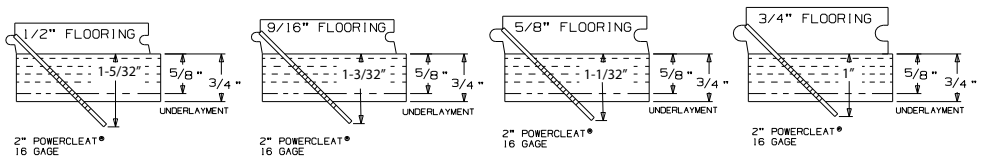


# POWERCLEATS LENGTH DETERMINATION CHART

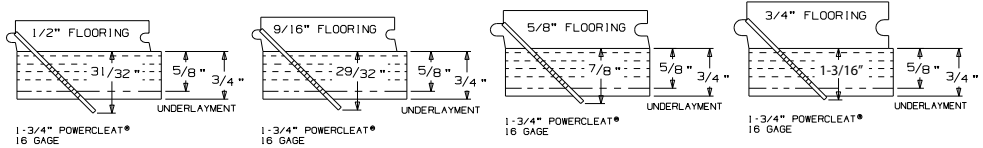
This chart will assist you in determining the proper length of Powercleats to use for various thicknesses of flooring. Approximate vertical penetration of the Powercleat under the hardwood floor is shown for each application. This is only a guide. Results should be tested in the field before proceeding.

## Nail Penetration for 3/4" and 5/8" Underlayment

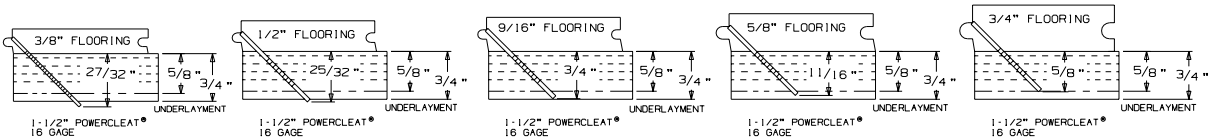
### 2" 16 GAGE POWERCLEATS®



### 1-3/4" 16 GAGE POWERCLEATS®



### 1-1/2" 16 GAGE POWERCLEATS®



# POWERNAILER MODEL 445 TROUBLE SHOOTING CHART

|   | PROBLEM                              | POSSIBLE CAUSE                                 | SOLUTION   |
|---|--------------------------------------|--|--|
| 1 | Driving blade does not retract       | 1. Zero or Low air pressure                    | Check air supply for 70 psi minimum to 110 psi maximum |
|   |                                      | 2. Lack of lubrication                         | Manually lubricate through male air inlet fitting      |
|   |                                      | 3. Excessive dirt inside nailer                | Disassemble and clean                                  |
|   |                                      | 4. Bent or burred driving blade                | Replace driving blade                                  |
|   |                                      | 5. Seals worn out                              | Replace all seals                                      |
|   |                                      | 6. U-Cup Lip Seals installed upside down       | Replace all seals                                      |
| 2 | Driving blade retracts slowly        | 1. Low air pressure                            | Turn up air pressure to 70-110 psi max                 |
|   |                                      | 2. Bent or burred driving blade                | Replace driving blade                                  |
|   |                                      | 3. Air supply restricted by small orifice      | Use 1/4" minimum diameter air fittings                 |
|   |                                      | 4. U-Cup Lip Seals installed upside down       | Replace all seals                                      |
|   |                                      | 5. Excessive dirt inside nailer                | Disassemble, clean and lubricate                       |
| 3 | Nail is not countersunk              | 1. Low air pressure                            | Turn up air pressure to 70-110 psi max                 |
|   |                                      | 2. Broken Driving Blade                        | Replace Driving Blade                                  |
|   |                                      | 3. Nail hit hard surface                       | Move from obstruction                                  |
|   |                                      | 4. Piston U-Cup Lip Seal installed upside down | Replace all seals                                      |
|   |                                      | 5. Driving blade jam nut came loose            | Retighten or replace jam nut                           |
|   |                                      | 6. Worn out gate                               | Replace gate.  |
| 4 | Nailer leaks air                     | 1. Air supply fittings loose                   | Tighten all air line fitting connections               |
|   |                                      | 2. Excess air pressure blew out seals          | Check air supply for 110 psi maximum—replace all seals |
|   |                                      | 3. Plunger screws loose                        | Tighten 3 plunger screws                               |
|   |                                      | 4. Cracked or damaged body                     | Replace body   |
|   |                                      | 5. Seals worn out                              | Replace all seals                                      |
|   |                                      | 6. Seals need to be seated                     | Dry fire Nailer  |
| 5 | Bottom of nailer cracked off         | 1. Operated without rubber bumper installed    | Replace damaged parts                                  |
|   |                                      | 2. Excessive air pressure used                 | Replace damaged parts                                  |
| 6 | Nails jam in nailer                  | 1. Not using 18 gage Powercleats nails         | Use 16 gage Powercleats nails only                     |
|   |                                      | 2. Continued use after a short hit             | Clear nail immediately after short hit                 |
|   |                                      | 3. Nail pusher damaged or spring broken        | Replace nail pusher assembly                           |
|   |                                      | 4. Nail channel lose                           | Tighten nail channel retaining screws                  |
|   |                                      | 5. Bent nail stuck in nail guide               | Disassemble and clear out bent nail                    |
|   |                                      | 6. Hit another set nail or hard object         | Move from obstruction                                  |
|   |                                      | 7. Nail gate worn out                          | Replace nail gate                                      |
| 7 | Plunger locked up—won't move or fire | 1. Safety trigger not being depressed          | Replace damaged plunger, safety yoke and plunger seal  |
|   |                                      | 2. Lack of lubrication                         | Manually lubricate through male air inlet fitting      |