DeWalt Framing Nailer Troubleshooting / Repair Guidelines

I) **Symptom:** Skips fasteners (won’t fire a nail every time)

1) Wrong nails used e.g. clipped head nails in a full round tool or vice versa – or wrong nail angle e.g. Bostitch type 28 deg nails will not work. Full Round is 20-22 deg only. Clipped is 31 to 34 deg only

2) Worn Bumper (Only open the tool up at this point if the tool leaks out the nose when driver is down or if the tool is really driving nails too deep)

3) Ensure nails are feeding into the nose properly.
   3.1) Does pusher slide freely in magazine?
       3.1.1) Magazine pinched - repair (spread) / replace
       3.1.2) Pusher spring broken or kinked / hub broken – replace pusher spring SA
       3.1.3) Sticky pusher? Spray lube or lightly oiling the magazine will help the pusher slide freely.
       3.1.4) Top Guide Clearance too small. Repair/replace

   3.2) Nails getting stuck in magazine.
       3.2.1) Magazine pinched ? - repair (spread)/replace as necessary
       3.2.2) Nail Shanks getting side by side. – magazine is spread open too far – repair /replace
       3.2.3) Poor nail collation – Plastic not breaking clean or breaking up too easily, Paper – too weak, nails are bunching or paper is debonding from stick.
       3.2.3) Top Guide Clearance too small. Repair/replace

   3.3) Nose Bolts Loose? See Section (I.6)

   3.4) Magazine loose ? - inspect latch & screws, repair /replace as needed. The magazine will have some play unless it is bolted then it shouldn’t have any. You have to judge whether the amount of play in the magazine is causing feeding issues - usually this is not the case.

4) Air pressure too low.
   Must be a minimum of 70 psi at the tool. Also nailing rate may be too high for compressor to keep up or there is too much pressure drop. i.e. Hose too long or too many tools running off one compressor etc. – Try increasing pressure at the compressor, slow down, run less tools, shorten hose or increase fitting and hose size to 3/8”.

5) Nails jump up over pusher.
   5.1) Excessive recoil. Hardwood, over driving the nail (high pressure), worn bumper etc.
   5.2) Pusher not following nails i.e. getting stuck. See section (I3.1)
   5.3) Too much top guide clearance
   5.4) Correct pusher used? - e.g. (FR silver pusher) for the Full round tool.
   5.5) Worn nose. (not likely to cause this problem but possible)

6) Nose Screws Loose or Broken - Tighten or replace. (Remove nose first before tightening the screws to ensure nose oring is not damaged – replace as required).
**I) Symptom:** Skips fasteners (won’t fire a nail every time) Continued ….  

7) Short stroking the trigger valve. Sometimes you can tell if this is the case by adjusting the depth of drive all the way out and checking to see if the symptoms still persist. If the symptom goes away – then something(s) below is the problem.

7.1) Sticky Contact Trip. Mechanism should slide freely – repair/replace as required to ensure it does move freely. Remove the contact trip spring to be sure the mechanism is not binding, then re-install the spring.

7.2) Short upper trip - replace

7.3) Worn trigger valve stem - replace Trigger Valve SA

7.4) Worn inner trigger – replace

8) Piston oring worn (Driver slides down nose i.e. not held in place)

9) Check Seal Broken or missing - replace

10) Nose oring missing. This should be a very unlikely event. (Checking for this requires you to take the nose off- the screws are loctited so this can be a very cumbersome task ) If the tool at normal pressure skips every other nail – this is a good sign the nose oring is missing or damaged)

11) Cylinder orings not sealing correctly. You can screen for this by checking for leaks out the nose in the unfired position or out the trigger valve in the fired position. You can also screen for this by removing the cylinder SA and placing your thumb over the hole in the side of the bulkhead creating a seal and try to move the cylinder up and down. It should be very tough to move. If it slides easily then there’s a leak – it’s either an oring problem or a bulkhead problem. Inspect the bulkhead closely for a crack.

12) TV leaks - See sections (IX) and (XII)

**II) Symptom:** Jams, Nails Not Sunk, Back Drives, Drives 2 nails.

1) Using correct nails? See section (I.1)

2) Nails too short. Minimum 2” nail length is recommended. Full Round .148 x 1.5” joist hanger nails should work but not perfectly in the full round tool.

3) Nails feed thru magazine OK? See section (I.3)

4) Worn or Broken Driver – replace Driver SA

5) Worn Nose

6) Nose screws loose – See section (I.6)

7) Driver not worn or broken but still not sinking nails (lack of power). Check air pressure. Replace piston oring. Replace trigger valve SA. Check Cylinder SA ensure is moves freely in the tool also see section (I.11). Grease all orings and sealing surfaces.
8) If you can find no problems with the above – replace the driver SA anyway and see if the problem improves.

III) **Symptom:** **Won’t Actuate – No Leaks at all when Contact Trip is depressed and trigger pulled.**

1) Check for smooth and full travel of the contact trip. Did someone just swap out the trigger? Is the contact trip guide held in place by the trigger pin? This is a common mistake – if the trip guide is not in place it won’t allow the contact trip to fully stroke.
2) Short stroking the trigger valve. See section (I.5)
3) Is trigger valve working? Check for this by doing the following. Remove all fasteners, if not already done. Remove trigger. Point tool in a safe direction. Attach air and depress the stem directly. You should hear the pilot valve move (a small hiss of air with a pop) and/or the tool will actuate fully. If you do then go back to step 2. If the pilot valve does shift but the tool doesn’t actuate, and there is a constant leak from the trigger valve, go to section (IV). If nothing happens at all, replace the trigger valve. If the trigger valve actuates and doesn’t leak but the tool doesn’t fire, then there is something keeping the cylinder from moving – it’s stuck. See section (VI.4).

IV) **Symptom:** **Won’t Actuate – Continuous leak from trigger valve with contact trip depressed and trigger pulled.**

1) Cylinder orings not sealing. See section (I.11)
2) Short stroking the trigger valve. See section (I.5)
3) Outer Bulkhead oring(s) damaged or not sealing properly.
4) Inspect outer trigger valve orings and trigger valve bore sealing surfaces in frame for damage / foreign debris.
5) Replace trigger valve.

V) **Symptom:** **Won’t Actuate – Continuous leak from the exhaust with the contact trip depressed and trigger pulled.**

1) Something is keeping the cylinder from sealing against the cap. See section (VI.4)

VI) **Symptom:** **Leaks from exhaust unfired.**

1) Foreign debris on cylinder seal/cap mating surface.
2) Cylinder seal damaged or not seated properly.
3) Cap sealing surface damaged
4) Cylinder not moving freely – not returning all the way back.
   4.1) Broken spring retainer or retainer band
   4.2) Piston driver broken causing the cylinder to wedge. Check to ensure the cylinder is not damaged.
   4.3) Broken cylinder collar
   4.4) Bumper Damaged - pieces causing the cylinder to wedge
   4.5) Broken cylinder spring
   4.6) Swollen orings - clean / rinse out tool replace all orings and trigger valve SA.
   4.7) Bulkhead damaged
5) Porous / damaged top cap.

VII) **Symptom:** **Leaks from Frame / Top Cap Interface**
1) Top Cap bolts tight?
2) Frame seal damaged / missing.
3) Damaged Frame or Cap

**VIII) Symptom:** Leaks from Nose Unfired

1) Lower Bulkhead o-ring damaged
2) Foreign debris on sealing surface / inside of o-ring groove on bulkhead
3) Inner cylinder o-ring not sealing. See section (I.11) for diagnosis.
4) Bulkhead sealing diameter on frame is damaged.
5) Bulkhead is damaged / cracked. See Section (I.11) for diagnosis.

**IX) Symptom:** Leaks from Trigger Valve Unfired.

1) Inspect lower outer trigger valve o-ring and trigger valve bore sealing surface in frame for damage / foreign debris.
2) Replace trigger valve.

**X) Symptom:** Leak from Nose with Driver Down (Fired Position)

1) Worn Bumper
2) Damaged Piston
3) Foreign debris in bottom of tool or something between the bottom of piston and the top of the bumper.

**XI) Symptom:** Leak from Exhaust with Driver Down (Fired Position)

1) Dry inner and outer exhaust orings
2) Foreign debris in cylinder exhaust o-ring or cap exhaust o-ring grooves or on mating sealing surfaces.
3) Worn inner and outer exhaust orings.
4) Damaged exhaust sealing surfaces of the cylinder or the exhaust button.
5) Top Cap cracked around center screw boss. (not likely)
6) Exhaust button broken. (not likely)

**XII) Symptom:** Leak from Trigger Valve with Driver Down (Fired Position)

1) Bulkhead o-rings damaged.
2) Foreign debris on frame/bulkhead/bulkhead o-ring groove sealing surfaces
3) Inner or outer cylinder o-rings not sealing. See section (I.11)
4) Bulkhead cracked. See Section (I.11)
5) Frame/Bulkhead sealing surface damaged.
6) Replace trigger valve.
7) Trigger valve bore sealing diameters (2) in frame damaged.

**XIII) Symptom:** Tool does “odd” things when air is applied.

1) Check for swollen orings / missing orings. See section (VI.4)
2) Replace trigger valve.