Reorder No. D13.10

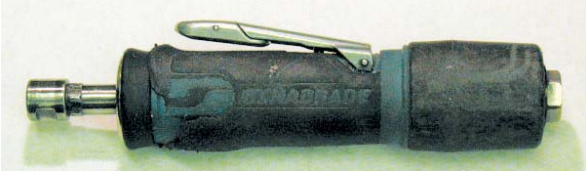
DYNABRADE®

Performance Assurance

AIR TOOL AND AIR SYSTEM INSPECTION/DIAGNOSIS

AIR TOOL INSPECTION

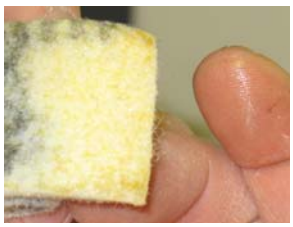
☐ Inspect the air tool.



☐ Is the tool's air inlet clean?

☐ Is the tool's exhaust (muffler/silencer) clean?

☐ Has the motor been oiled?



This silencer shows evidence of oil.

This air motor received "Last-Rites Oil."

Notice, the puddle of oil appears clean.

☐ Can the tool's spindle be turned by hand?

"The spindle won't turn." This usually indicates broken vanes.

Generally, broken vanes indicate that the motor has not been oiled regularly.

AIR SYSTEM CHECK

Tachometer

- ❑ Affix a 1/2" (12 mm) square piece of reflective tape to the tool's spindle or pad.
- ❑ Aim the Laser Pointer at the reflective tape and run the tool. (Operational distance: 2"/50 mm to 20"/500 mm)
- ❑ Read RPM. (Notice: Refer to User's Manual for more detailed instructions.)

PSI Gauge

- ❑ Connect Air Gauge and air supply hose to the air inlet of the tool.
- ❑ Run the tool and adjust air supply pressure to 90 PSIG (6.2 Bar).

Condition of Coupler and Plug

- ❑ Check for wear or damage to coupler and/or plug.
- ❑ Can the I.D. of the plug supply enough air to the tool?

Condition of Air Hose

- ❑ Check to see if the hose is frayed or cracked? (see "Cost of an Air Hose Leak" on reverse side)
- ❑ What is the length of the hose?
- ❑ Match length and I.D. of hose to air requirement of tool.
- ❑ Is there a hose reel?

Condition of Air Hose (Continued)

- ❑ How many coupler connections exist from the drop to the workbench?
- ❑ Are there any "T's" or a manifold at the workbench?
- ❑ How can Dynaswivel® prolong the life of the hose?

Filter-Regulator-Lubricator

- ❑ FRL – is it present? If yes, is it working?
- ❑ Filled with oil? Set for proper lubrication?
- ❑ What type of oil? (Weight, Non-detergent vs. Detergent – Notice: Non-detergent oils contain little to no solvents. Air Tool Oils with "conditioner" usually contain solvents. Example: Both Marvel® Air Tool Oil and Marvel® Mystery Oil contain mineral spirits, a common solvent used as paint thinner.)
- ❑ Are there reducer bushings being used to connect the air supply to the FRL?
- ❑ What size is the fitting connecting the FRL to the air line that is supplying the air to the workbench?
- ❑ Are there any "T's" or manifolds coming directly off the FRL?
- ❑ What material is the pipe that is carrying the air supply? Black Iron?

AIR SUPPLY HOSE RECOMMENDATIONS

Air Motor SCFM	Hose and Fitting I.D.	Recommended Length
22 (623 LMP)	1/4"	1' - 8'
28 (793 LMP)	3/8"	1' - 25'
35 (991 LMP)	3/8"	1' - 20'
45 (1274 LMP)	3/8"	1' - 10'
73 (2067 LMP)	1/2"	1' - 20'

RANDOM ORBITAL SANDER SWIRL-FREE CHECKLIST

Equipment Check:

Random Orbital Sander

- ❑ **90 PSIG (6.2 Bar) is the required operating air supply pressure.** Check the air pressure at the sander while it is running. Note: Promote the use of Dynabrade maximum flow plugs and couplers to ensure proper airflow.
- ❑ **Confirm that the tool is running at the rated "Free Speed" RPM.** On an average a 10,000 RPM non-vacuum sander will run at 9,500 RPM; a 12,000 RPM non-vacuum sander will run at 11,500 RPM. A vacuum sander normally runs slightly slower.
- ❑ **Inspect the balancer bearing (pad bearing).** Remove the back-up pad and rotate the balancer bearing shaft while holding the counterbalance stationary. The balancer shaft should turn freely.

Back-Up Pad

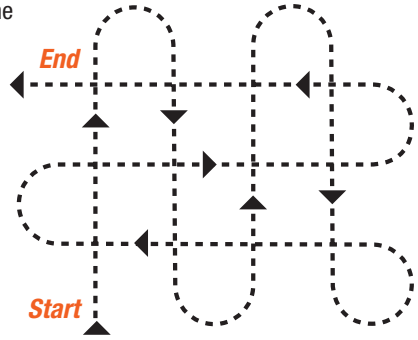
- ❑ **Inspect the face of the sanding pad.** The pad must be flat and smooth, without any defects. Check if they are using a Dynabrade back-up pad that is "weight-mated" to the sander. Using another pad can make the sander vibrate excessively and lead to an unacceptable finish.

Sanding Techniques:

- ❑ **Always START the sander ON the surface, and STOP the sander OFF the surface.**
- ❑ **When sanding keep the sander, and pad FLAT on the surface. Important:** Do not exert heavy downward force on the sander. Apply enough downward force to keep the back-up pad and abrasive flat on the surface allowing the back-up pad to orbit freely over the surface.

Sanding Techniques (Continued)

- ❑ **Follow a set pattern when sanding.** It is suggested to pass over the surface following a "North, South, East, West" pattern (see below), overlapping each pass 1/4 the diameter of the back-up pad and abrasive. This insures that the previous scratches are removed and that a uniform finish is achieved. Two "patterns" per sanding step are recommended.



- ❑ **Frequently inspect abrasive for tears, folds, or build-up.** When changing abrasive to proceed to the next sanding step, first inspect the condition of the abrasive that is on the sander. If any defects are noticed in that abrasive, remove it and install another piece of the same grain and sand the work surface again before proceeding on to the next sanding step.
- ❑ **Always clear away sanding dust and abrasive debris before progressing to the next sanding step with a finer "grit" abrasive.**

THE COST OF AN AIR HOSE LEAK

One 1/16" hole in a hose leaks at 100 PSIG:

- ➤ 4.25 cubic feet per minute (CFM)
- ➤ 255 cubic feet per hour
- ➤ 2,040 cubic feet in an 8-hour day
- ➤ 6,120 cubic feet per 24 hours

*Costs will vary based on local charges per kilowatt-hour.

The cost of one leaking air hose:

240 working days per year **x** **6,120** leakage in cf per 24 hours **=** **1,468,800** air lost in cf per year

1,468,800 air lost in cf per year **x** **$.00041*** cost per cf based on typical energy costsper kilowatt-hour **=** **$602.21*** total cost per year!

PLUG CONNECTORS

Compare Airflow SCFM (LPM)

All information based upon size of I.D. at 90 PSIG (6.2 Bar) in conjunction with mating coupler.

Common Plug Connector

➤ 25 SCFM (708 LPM)

Dynabrade Plug Connector

➤ 76 SCFM (2152 LPM)