SMOOTH SKIES
SERVICES

SERVICE REPORT

Service Address: Somewhere in the USA

Date:

Service: Basic Aerial Inspection

EXECUTIVE SUMMARY

- Two visible bulges are located on the second-story east roof. These should be inspected by a qualified roof builder immediately. The inspection should be performed from the top of the roof by removing the shingles and from the interior thru the attic to determine the cause and extent of the damage. Bulges typically occur when moisture is accumulating on the underlayment and/or roof decking. Not addressing this urgently can create additional or larger bulges on the roof.
- Both ridge vents shingles are worn out, they should be replaced.
- Ensure that the 2nd story east roof attic vent fan is working and installed correctly, it has shifted downward from its original location; replace/repair as needed.
- The northern section of the chimney has a couple of long small cracks; repair/seal the cracks.
- There are several areas of the roof where single shingles are popping up; these should be repaired/replaced. When shingles are pushed upward from beneath, it can be the result of a lack of insulation or poor attic ventilation.
- Inspect/repair all vents; several are damaged, and others need a cap to prevent debris/wildlife penetration.
- For reference on the importance of moisture control via adequate ventilation, refer to the next page.

Ventilation Reference

- Well-ventilated roof structures use air movement to exhaust heat from the attic or roof structure to the outside. Poor roof ventilation can shorten the long-term service life of certain types of roofing materials, especially those which contain asphalt, such as black felt underlayment and asphalt shingles. Ventilation also influences moisture levels in the attic and comfort levels in the home.
- Roof vents should be installed near the roof peak. Figure 2 shows cool air entering the soffit vents.
- One of the most efficient ventilation methods is the continuous soffit vent combined with the continuous ridge vent (Fig. 1).
- Ridge vents, via thermal buoyancy -- the tendency for hot air to rise --, will evacuate hot air from an attic space or rafter bay, ventilation is much more effective if the air is actively pulled out of the upper vents by other forces, such as air-pressure differentials.
- When ridge vents have baffles, the baffles divert wind blowing across the roof upward. This creates an area of low pressure just above the opening, producing an air-pressure differential between the attic space and the exterior, which helps pull air out of the attic.
- This effect is lost if the prevailing winds blow parallel to the ridge.

Fig. 1

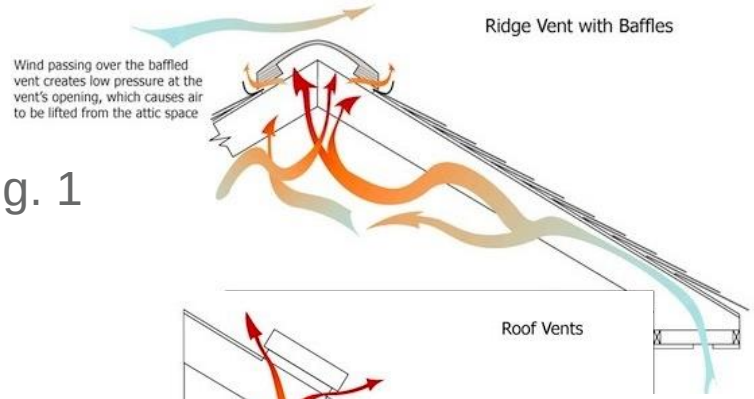
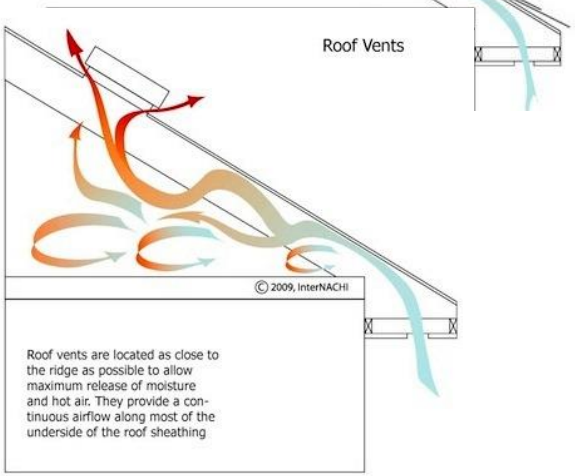


Fig. 2



BIRDSEYE VIEW

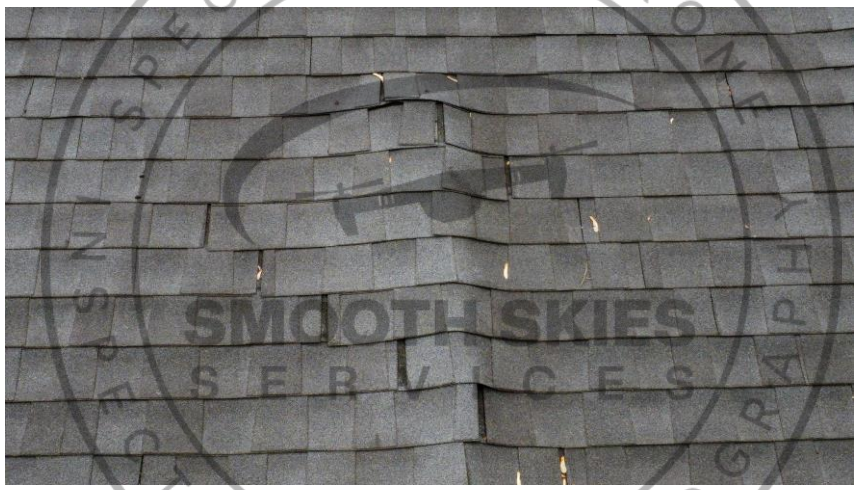
- Two story home with 8 obstructions and 2 ridge vents
- Plumbing vent - 9
- Ridge vents – 1, 7
- Chimney - 3
- Box vents (1st floor) – 4, 5 & 6 (*)
  - Static exhaust vent with no dampers
- Box vents (2nd floor) – 8 & 10
  - Static exhaust vent with dampers
- Roof top attic fan – 2

(*) partially visible

West and Southwest Aerial Views

- Ridge vent shingles are worn out; hardly any granules are present.
- The red highlight shows a large bulge on the roof. Roof underlayment and/or deck damage. The roof should be inspected from the attic to determine the extent of the damage.
- The yellow highlight shows the early stages of potential budge. The roof should be inspected from the attic to determine the cause of the bulging.
- Depending on the extent of the bulging damage, repair/replace the underlayment and/or deck section.
- Typical causes of bulging damage are moisture accumulation.
- Moisture accumulation can originate from damaged insulation and/or poor ventilation.

Second Story East Roof Bulge Close Up



South and Southeast Aerial Views

- No bulging on the second-story west roof.
- Shingles on ridge vent clearly show worn stage
- Ridge vent shingles are misaligned; there are not in a straight line. These are the initial stages of movement and/or detachment.

Second Story East Roof Vent (#2)

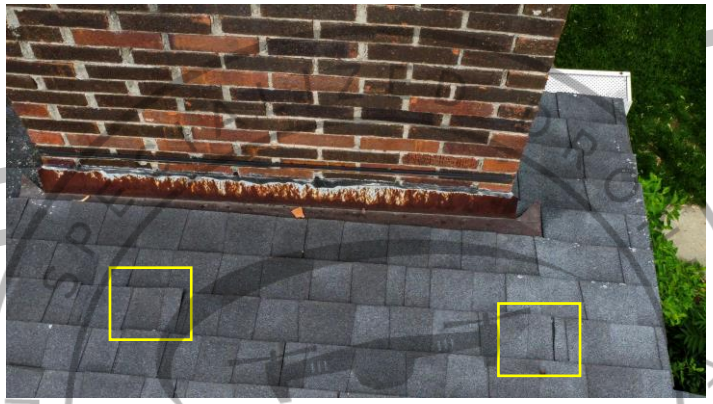
- Attic fan shows signs of movement. The lower right corner is misaligned with the shingles.
- Screws on the perimeter have rust.
- Ensure the fan is operating as intended to ensure proper attic ventilation and management of moisture removal.

Southwest Corner Chimney

- There are two small cracks in the chimney. These are highlighted in yellow.
- Consider adding a metal grille to the right circular vent on the chimney to prevent debris and/or wildlife penetration.

Southwest Corner Chimney

- Chimney flashing shows prior repairs to prevent leaks from walls onto the roof.
- While flashing has signs of rush the lower flashing/diverter looks in good condition.
- There are a couple of single shingles that are being lifted, probably nail pop-ups. These need to be repaired.



East and Southeast Aerial Views

- Second Story West Roof Plumbing Vent (#9) is in good condition.
- Consider adding a vent cap and/or a grille on top of the vent to prevent debris and/or wildlife penetration.

Second Story West Roof Vent (#10)

- Vent is damaged and has been significantly raised from the roof.
- Replace vent.
- Inspect the attic at this location for possible underlayment and/or decking damage.
- Inspect surrounding shingles for any additional damage.
- Additionally, identify the source of the rust on the vent nails.

2nd Story Roof East View Close Ups

- There are four areas on the roof where shingles are starting to be pushed up.
- Possible cause is nail pop-ups.
- Have these four areas closely examined by a roof contractor and repair as required.
- Since these four areas are “single shingle” events, most likely there is no underlayment and/or decking damage. Confirm this by inspecting the attic for these locations.

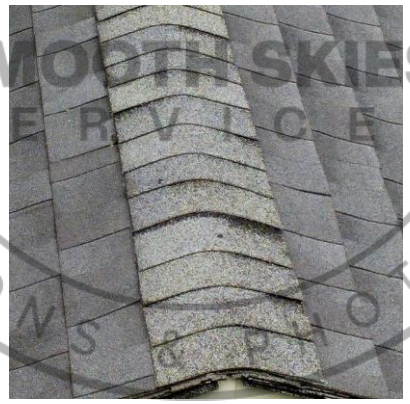
1st story Roof Aerial Views

- From these views we can see both stories' ridge vents shingles are significantly worn.
- These shingles need to be replaced.
- The 1st story ridge vent shingles are not showing any sign of movement, unlike the 2nd story ones.




1st Story Roof Ridge Vent (#7)

- Ridge vent shingles need to be replaced, they are worn and have very little if any, granules left.
- Western box vent (#6) shows damage. It should be replaced.

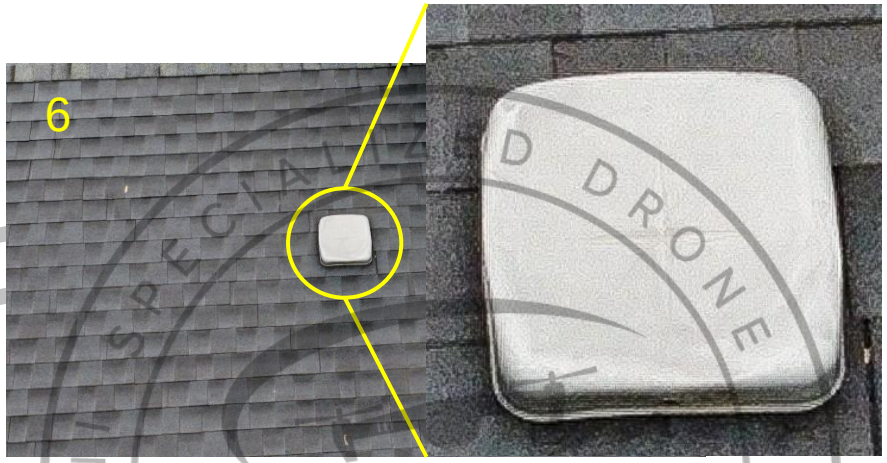


1st Story Roof East View Close Up

- A single shingle on the middle of this roof section is popping up. Possible nail pop-up.
- This should be repaired.
- Additionally, inspecting the attic, if possible, for any potential attic damage below this shingle.

1st Floor Boxed Vents

- Vents #5 and #6 are damaged.
- They should be replaced.



RECOMMENDATIONS

- Get the underlayment and roof deck inspected for both floors inspected by a qualified roof builder; especially on the 2nd story east roof.
- Have both 1st and 2nd story ridge vents closely inspected, including from the attic. Additionally, replace all shingles from the ridge vents because they are worn out.
- Confirm that the second story, east roof, attic fan is working properly so that it moves the hot air, and moisture, out of the attic. Replace all rust bolts/screws from the fan. Additionally, have the fan repositioned so it is lined up with the roof shingles since it is not aligned.
- Get chimney cracks sealed on the northern side of the chimney.
- Repair/replace the pushed-up shingles west of the chimney on the 2nd story east roof. Add a metal grid cap to the southern vent on the chimney to prevent a means for debris or wildlife to enter.
- Add a metal grid cap to the plumbing vent on the second-story west roof to prevent debris or wildlife to enter.
- Replace static box vent on 2nd story west roof.
- Repair the four pushed shingles on the 2nd story east roof
- Replace two(damaged) of the three boxed vents on the 1st story south roof
- Repair the pushed shingle on the 1st story west roof.
- Get an assessment of the current ventilation design of the roof is adequate to ensure there is enough airflow thru both roofs to prevent moisture buildup.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