WATER LEAKS—WATER LEAK FROM ROOF OR WINDSHIELD AREA—TH!NK NEIGHBOR VEHICLES ONLY	Article No. 02-6-4

THINK: 2002 TH!NK NEIGHBOR

ISSUE

Some vehicles may exhibit water leaks between the roof panel and the roof rails, or from the windshield. This may be due to inadequate sealing between the roof panel and the roof rails, or between the windshield and the header.

ACTION

Verify Condition. Reseal the Roof, Header Area or Roof Rail area. Refer to the following Service Procedure for details.

SERVICE PROCEDURE

NOTE

THE USE OF FORD OR MOTORCRAFT BRAND PRODUCTS ARE MANDATORY ON ALL FORD PAID REPAIRS UNLESS OTHERWISE SPECIFIED IN COMPANY PUBLICATIONS. THE COST OF NON-FORD, NON-MOTORCRAFT PRODUCTS AND/OR SHOP SUPPLIES ARE NOT REIMBURSABLE UNLESS JUSTIFIED (I.E., EMERGENCY REPAIR OR SPECIFIED BY A COMPANY PUBLICATION).

Examples of Ford products are: adhesives, sealers, solvents, cleaners, washes, and other special products listed in the Ford Car Care Products Manual.

CAUTION

TECHNICIANS SHOULD WEAR THE APPROPRIATE EYE, HAND AND HEARING PROTECTION WHILE PERFORMING THESE REPAIR PROCEDURES. ADHESIVES AND SEALERS USED IN THESE PROCEDURES SHOULD BE USED IN A WELL-VENTILATED AREA.

1. Cover the seats.
2. Perform a water test starting on the roof and mark all areas where leaks occur. See Figure 1 showing specific areas to check for leakage.
3. Remove the roof, by sharply pushing on the roof panel near the roof rail, from the inside of the vehicle. Two to three sharp pushes by hand should be sufficient to break the adhesive loose in that area. Continued pressure will then peel the roof away from the rail.

NOTE

THE ROOF IS ATTACHED TO THE ROOF RAILS WITH DOUBLE-SIDED ADHESIVE COATED FOAM TAPE. SOME VEHICLES WILL ALSO BE SEALED WITH SILICONE ADHESIVE, AND/OR HAVE HOT MELT SEALANT IN THE CORNERS. ALL OF THESE MATERIALS NEED TO BE REMOVED AND THE SURFACE CLEANED.

4. Remove the foam tape and silicone adhesive from the roof panels, rail, and header.

NOTE

IF THE ADHESIVE TAPE IS DIFFICULT TO REMOVE, GENTLY APPLY HEAT TO THE TAPE USING A HEAT GUN. IT WILL RELEASE MORE EASILY WHEN HEATED.

5. Use a rubber stripe removal wheel such as 3M p/n 07498 on a air drill (tool optimal speed is 1500-2000 rpm) to remove remaining foam adhesive, as shown in Figure 2. The surface should be relatively clean, recognizing that it may not be possible to remove all traces of the silicone adhesive.

NOTE

DO NOT USE METAL TO SCRAPE THE RAILS OR THE ROOF. THE RAILS ARE ANODIZED AND THE METAL WILL CORRODE IF SCRATCHED THROUGH THE ANODIZED LAYER. THE ROOF IS ABS PLASTIC AND METAL OBJECTS MAY GOUGE THE SURFACE.

6. Use compressed air and blow away debris from the rubber stripe removal wheel, and then wipe the rail, header, and bonding area of the roof panel, using a clean rag and wax and grease remover or alcohol.

NOTE
THE BONDING SURFACES MUST BE CLEAN TO ACHIEVE A WATERTIGHT BOND.

7. Apply 1″ masking tape to the top, outer edge of the roof panel.

8. Apply 3M Drip-Check (p/n 08531) over the joints at the A- and B-pillars, as shown in Figure 3.

NOTE
DRIP-CHECK WILL SHRINK CONSIDERABLY AS IT CURES. USE A BEAD APPROXIMATELY 5-7 MM (0.200 - 0.270 IN) ACROSS THE JOINTS TO ENSURE THE JOINT WILL BE FILLED WHEN THE MATERIAL DRIES. ALLOW THE DRIP-CHECK TO CURE 3-4 HOURS BEFORE PROCEEDING. IF THE DRIP-CHECK IS NOT CURED BEFORE THE FOAM TAPE IS APPLIED, THE BONDING ABILITY OF THE FOAM TAPE WILL BE COMPROMISED AND LEAKS MAY RESULT.

NOTE
IF THE GAP AT THE A-PILLAR IS GREATER THAN 2MM, PLACE A PIECE OF MASKING TAPE UNDER THE JOINT (FROM THE INSIDE OF THE VEHICLE) TO SUPPORT THE DRIP-CHECK AS IT CURES AND FILLS THE GAP.

9. Mask the rail as shown in Figure 3 by applying fine line striping tape such as 3M p/n 06314 on the vertical surface of the rail and the header, and then peeling the lower 1/4″ of the tape away. You may also apply 1/4 ″ fine line striping tape such as 3M p/n 06301 on the lower vertical surface of the rail, then 1″ masking tape directly above the fine line tape, and finally removing the fine line tape to expose the lower 1/4 ″ of the rail's vertical surface.

10. Apply 12.7 mm x 1.14 mm (1/2″ x 0.045 ″) double-sided foam tape such as 3M p/n 06380 around the roof rail perimeter, beginning at the middle rear of the vehicle. Use a continuous piece, and ease the tape by pulling a little around the corners, as shown in Figure 4. Do not use thicker tape, as this is difficult to ease around the corners. Remove the backing, and apply a second piece on top of the first piece, staggering the joints. Leave the backing on the second layer of tape at this time. This will serve as a dam for the urethane adhesive. Press down on the tape, all the way around the perimeter, to ensure the tape has completely bonded to the rail.

11. Apply a 5-6 mm bead of 3M Ultra-Pro White Urethane Seam Sealer (p/n 08360) on the roof rails and header, beginning on the outside by the masking tape, and then apply a second bead next to the foam tape. Do not put urethane adhesive on the foam tape. See Figure 5. Be sure to apply sufficient material in the A-pillar area. This product requires a special applicator gun, 3M p/n 08398. For cosmetic purposes, use only white urethane.

12. Remove the backing on the foam tape. Set the roof panel into the opening carefully, lining the leading edge of the panel up with the header and then setting the rear of the roof into place. Press the roof firmly, and visually inspect all areas of the bond from the inside of the vehicle to ensure the roof has firmly bonded to the foam tape. You should not be able to see any openings through the tape, when viewed from the inside of the vehicle, and you should see the urethane spilling into the trench between the roof panel and the rail.

13. Wearing rubber or latex gloves, smooth the urethane adhesive in the ditch area between the roof panel and the roof rails. You may wish to fill additional urethane adhesive into the ditch for cosmetic purposes.

NOTE
LIGHTLY SPRAYING ADHESIVE CLEANER SUCH AS 3M P/N 08987 ON THE GLOVE AND URETHANE WILL MAKE IT EASIER TO SPREAD AND SMOOTH THE ADHESIVE.

14. Avoid transferring the urethane adhesive to unprotected areas of the roof panel or roof rails. This adhesive may be removed before it has cured with the adhesive cleaner.

15. Carefully remove the masking tape from the roof panel and the rail.
16. Seal the upper edge of the windshield, and above the rear view mirror, using 3M Windo-weld flow grade resealant p/n 08994. Inject the resealant between the rubber windshield seal and the aluminum header (Figure 6).
17. Allow to cure for 2-4 hours.
18. Water test the vehicle to verify the repair.

PART NUMBER	PART NAME
3M Part - 08531	3M Drip Check
3M Part - 06380	3M Double-Sided Foam Tape
3M Part - 08360	3M Ultra-Pro White Urethane Seam Sealer
3M Part - 08398	3M Applicator Gun (Used For 08360)
3M Part - 08987	3M Adhesive Cleaner
3M Part - 08994	3M Windo-Weld Flow Grade Resealant

OTHER APPLICABLE ARTICLES: NONE
WARRANTY STATUS: Eligible Under The Provisions Of Bumper To Bumper Warranty Coverage

OPERATION	DESCRIPTION	TIME
020604A	Reseal Roof Panel And Upper Edge Of Windshield	2.1 Hrs.

DEALER CODING

BASIC PART NO.	CONDITION CODE
5450202	42

OASIS CODES: 102000, 105000, 110000, 111000

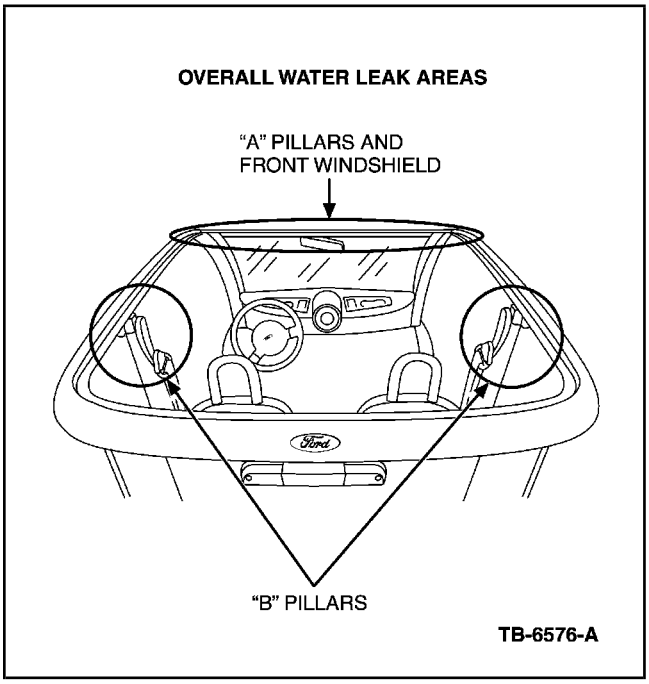

Figure 1 - Article 02-6-4

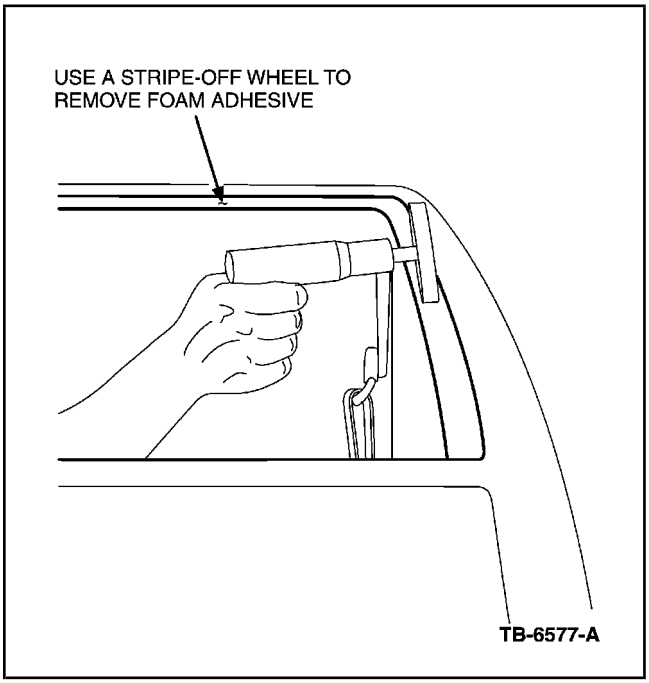

Figure 2 - Article 02-6-4

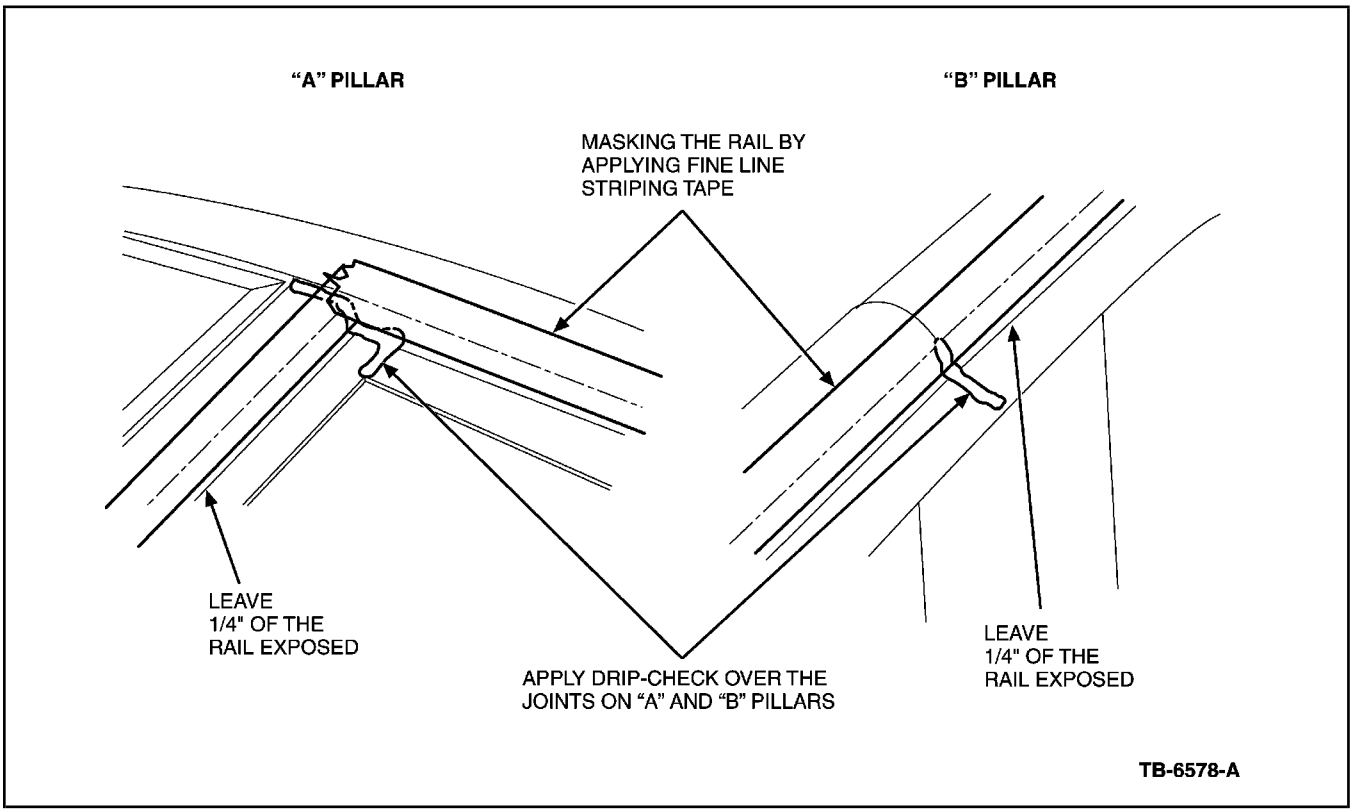

Figure 3 - Article 02-6-4

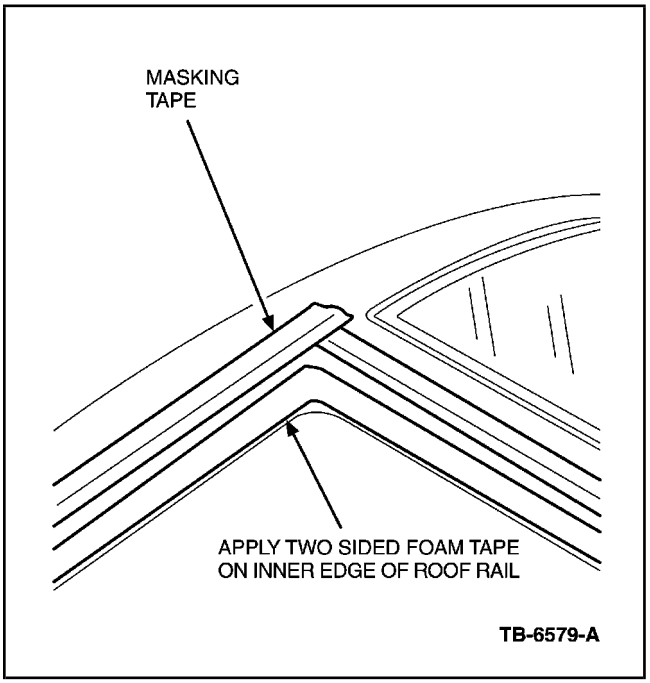

Figure 4 - Article 02-6-4

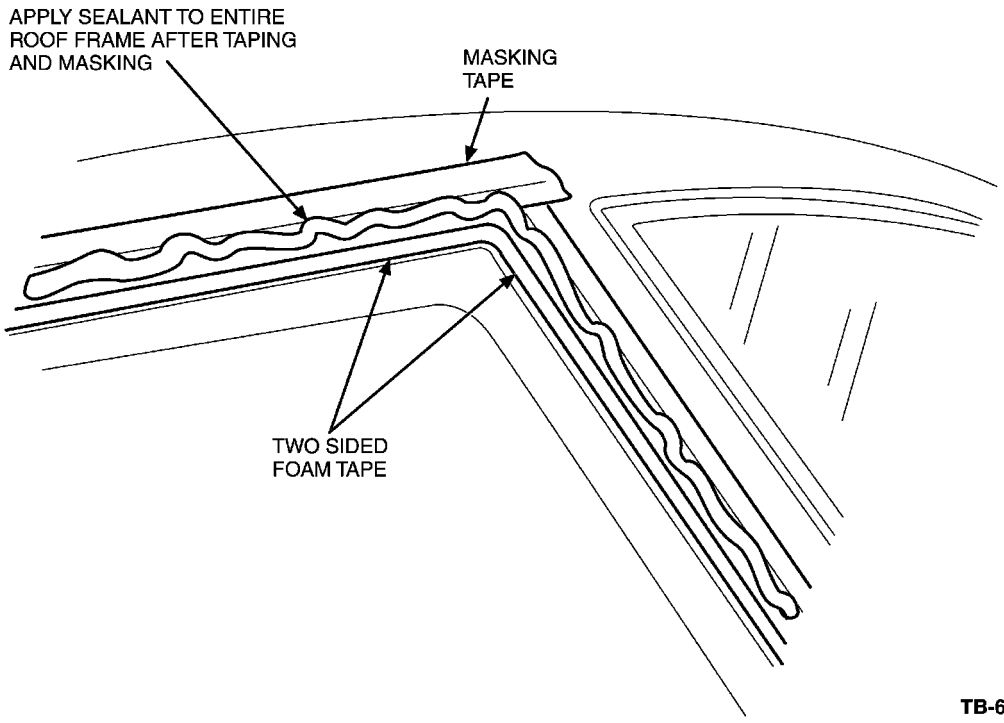

Figure 5 - Article 02-6-4

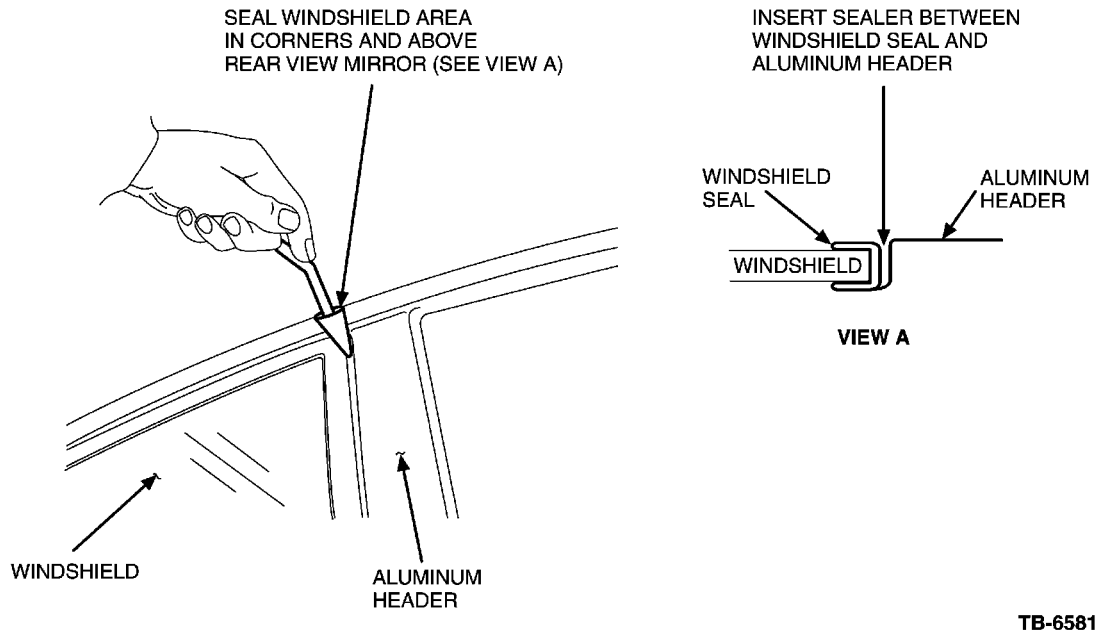

Figure 6 - Article 02-6-4