



SPOTLIGHT INSTALLATION PROCEDURES FOR FORD EXPLORER SUV

B460-8546

Orig. Date: 08/26/11

Rev.: A

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This spotlight installation procedure is developed for Ford Explorer SUV. **Read all instructions on this sheet as well as on the 8545 template sheet before proceeding with your spotlight installation. To protect your eyes, always wear American National Standards Institute (A.N.S.I.) approved safety glasses when working with tools.**

FIG. 1: ATTACH PATTERN TO POST & PUNCH HOLE LOCATIONS

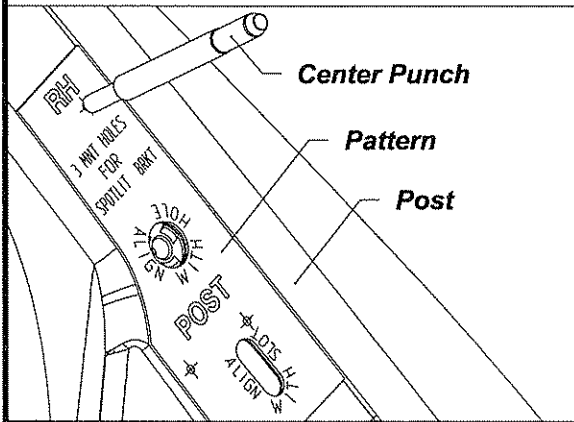


FIG. 2: DRILL MOUNTING HOLES AT PUNCHED LOCATIONS

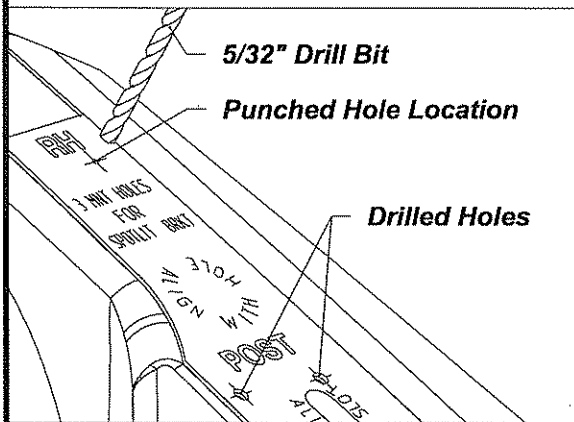
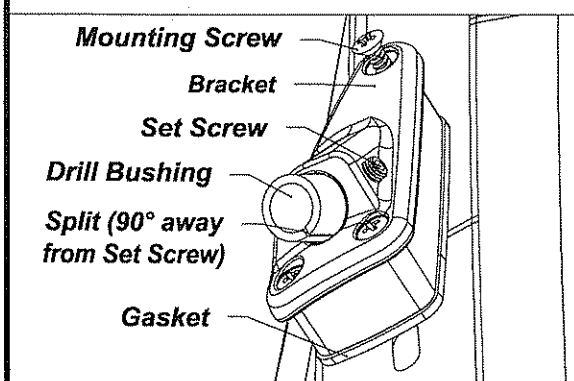


FIG. 3: ATTACH GASKET & BRACKET TO POST, AND TIGHTEN SET SCREW TO HOLD DRILL BUSHING



1. REMOVE PARTS FROM VEHICLE "A" PILLAR

- Level your vehicle and roll down the windows.
- Follow instructions on the **8545 template sheet** to remove the applique and the applique bracket (**Fig. 6**) from the "A" pillar (on LH side for LH installation, on RH side for RH installation, or on both sides for both LH & RH installations. This is true for all other steps in this instruction sheet).
- Remove the garnish trim (**Fig. 5**) from inside of the "A" pillar.

2. CUT CLEARANCE HOLES ON APPLIQUE AND APPLIQUE BRACKET

- Follow the instructions and illustrations on the **8545 template sheet** to locate and tape the applique pattern on inside of the applique. Cut out the spotlight bracket clearance hole on the applique. Check out the hole size with the spotlight bracket.
- Follow the instructions and illustrations on the **8545 template sheet** to locate and tape the pattern on the applique bracket. Cut out the spotlight bracket clearance hole on the applique bracket. Check out the hole size with the spotlight bracket.

3. DRILL MOUNTING HOLES & ATTACH BRACKET

- Follow the instructions and illustrations on the **8545 template sheet** to locate and tape the pattern on the post (**Fig. 1**). Punch three mounting hole locations.
- Use $\text{Ø}5/32$ " drill bit and drill three mounting holes (**Fig. 2**). Make sure that the drill bit is perpendicular to the post surface while drilling the mounting holes. Remove the pattern from the post once the holes have been drilled.
- First, lay the gasket on the bracket bottom to make sure the proper gasket is used. Then, attach the gasket to the bracket bottom by peeling off the adhesive backing and aligning the gasket holes with the three holes on the bracket (**Fig. 3**).
- Mount the bracket and gasket assembly securely to the post by using three mounting screws (**Fig. 3**).
- Insert the drill bushing into the bracket (**Fig. 3**) and orientate the split 90° away from the set screw. Tighten the set screw to hold the drill bushing firmly.

4. RELOCATE WIRES AND ATTACH GARNISH TRIM

- Relocate the wire harnesses inside the "A" pillar to clear the drilling path of the $1/2$ " spotlight shaft hole.
- Re-attach the garnish trim back to the "A" pillar.



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5. DRILL $\varnothing 1/2"$ SHAFT HOLE & REMOVE BRACKET

- Drill $\varnothing 1/2"$ spotlight shaft hole all the way through the "A" pillar as well as the garnish trim. While drilling, keep the drill level and in proper alignment with the drill bushing (Fig. 4). Do not force the drill bit but allow it to do the work and slowly cut through the sheet metals. Also, check the bracket mounting screws from time to time to be sure that they have not loosened during drilling.
- Loosen the bracket set screw (Fig. 3), and remove the drill bushing with pliers as it is probably very hot after drilling.
- Loosen the bracket mounting screws (Fig. 3), and remove them and the bracket and gasket assembly.

6. REMOVE & NOTCH GARNISH TRIM AND INSTALL WIRE HARNESSES INSIDE "A" PILLAR

- Remove the garnish trim, open up the shaft hole in the garnish trim to $\varnothing 9/16"$ for the spotlight lead wire connector to pass through in Step 8c, and then cut out a $\varnothing 5/32"$ notch in the shaft hole on the garnish trim to provide room for the spotlight lead wire (Fig. 5).
- Install wire harnesses, which were relocated in Step 4a before the shaft hole was drilled, back to the original locations.

7. INSTALL APPLIQUE BRACKET, APPLIQUE, AND SPOTLIGHT BRACKET

- Install the applique bracket (Fig. 6). Before the installation, check and make sure that the clearance hole cut in the applique bracket is large enough to fit with the spotlight bracket gasket if this was not done in Step 2b.
- Install the applique (Fig. 6). Check and make sure that the clearance hole cut in the applique is large enough to allow the spotlight bracket to fit in if this was not done in Step 2a.
- Install the spotlight bracket and gasket assembly (Fig. 6).

8. CONNECT SPOTLIGHT LEAD WIRE TO VEHICLE HOT WIRE & INSTALL GARNISH TRIM

- Loosen the wedge screw. Remove the wedge screw, the wedge and the spotlight handle assembly (Fig. 8).
- Turn the toggle to the **OFF** position by pushing it down as shown in (Fig. 7), or forward as shown in (Fig. 11).
- Pass the spotlight lead wire through the shaft hole in the inner trim (Fig. 8) and then the shaft hole drilled in the garnish trim and connect it to the vehicle hot wire (Fig. 7).
- Install the garnish trim.
- Use masking tape to temporarily hold the lead wire in the notch for the convenience of installing the spotlight shaft.

FIG. 4: KEEP DRILL LEVEL & IN ALIGNMENT WITH DRILL BUSHING WHILE DRILLING $1/2"$ SPOTLIGHT SHAFT HOLE

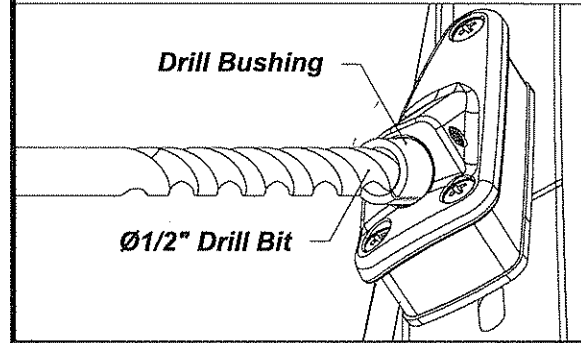


FIG. 5: CUT NOTCH ON GARNISH TRIM FOR SPOTLIGHT WIRE

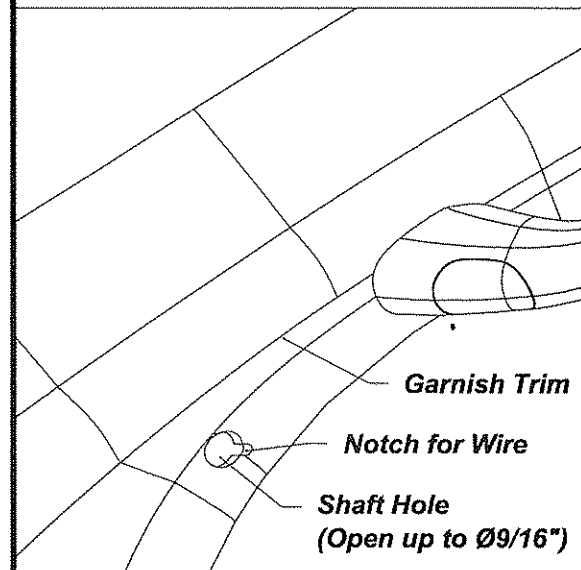
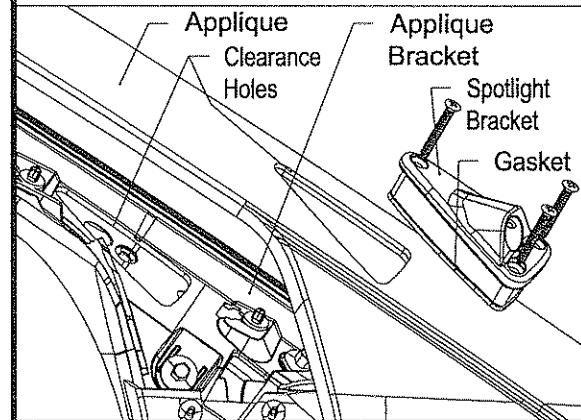


FIG. 6: INSTALL APPLIQUE BRACKET, APPLIQUE, & SPOTLIGHT BRACKET





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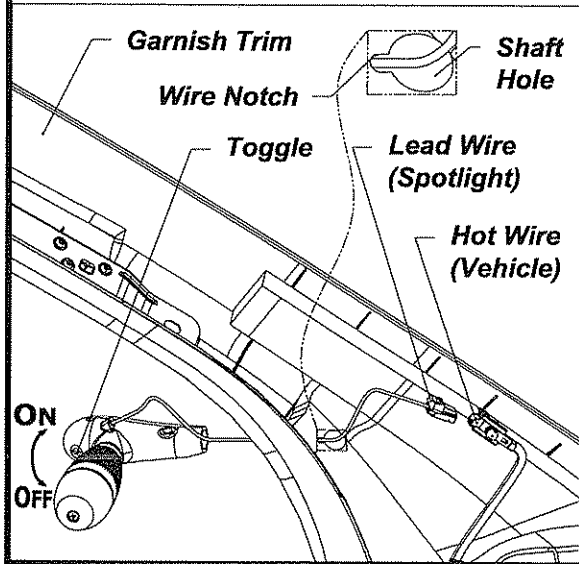
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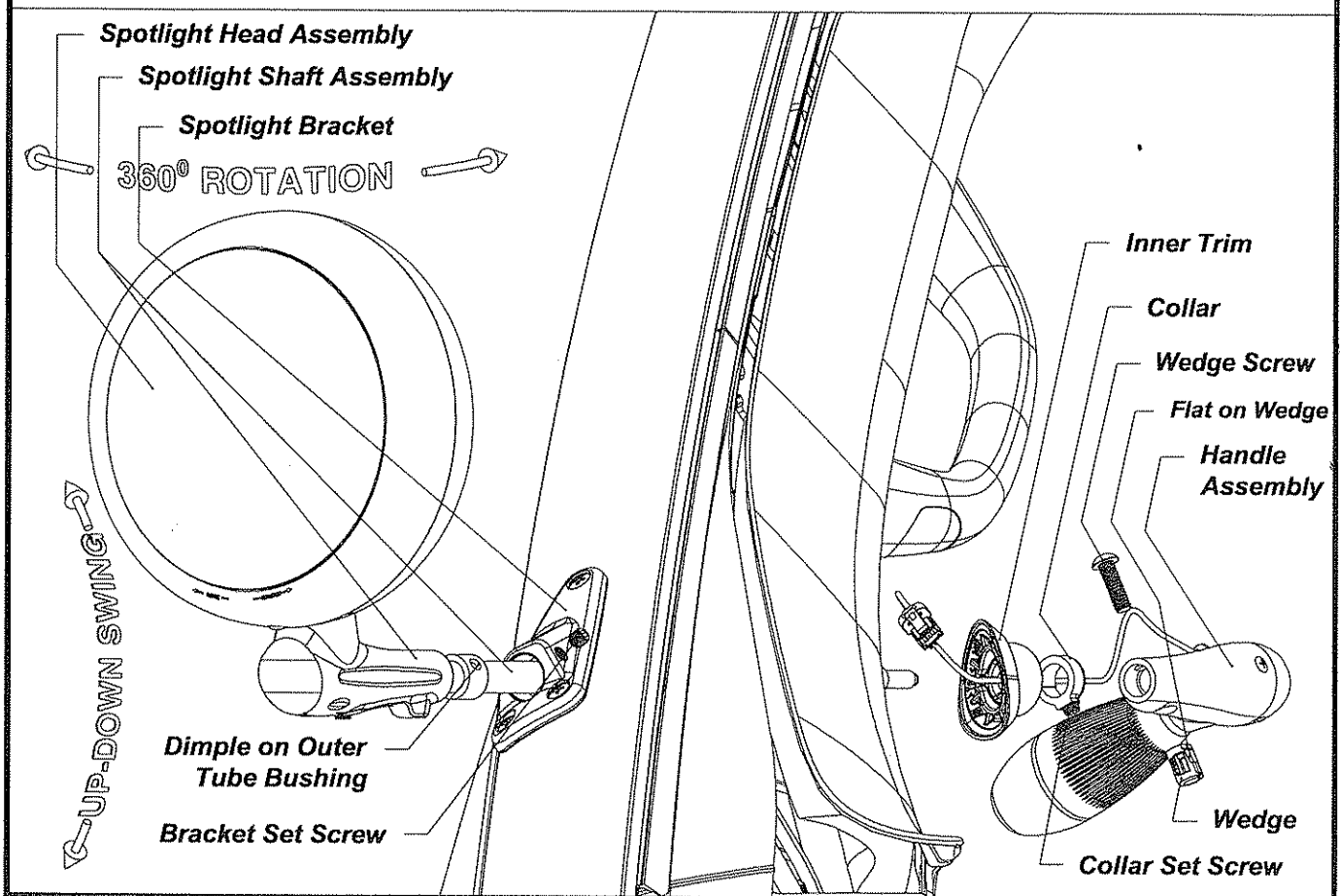
FIG. 7: CONNECT SPOTLIGHT LEAD WIRE TO VEHICLE HOT WIRE WITH TOGGLE AT OFF POSITION



9. INSTALL SPOTLIGHT HEAD AND SHAFT ASSEMBLY

- Install the spotlight head and shaft assembly by passing the shaft through the bracket and then the shaft hole drilled in the "A" pillar (Fig. 8). This should be performed gently so that the electrical contact (F) at the end of the rod (J) (Fig. 10) will not be damaged.
- Align the dimple on the outer tube bushing with the bracket set screw (Fig. 8). Tighten the set screw to 50±5 in-lbs of torque.
- Tighten **Set Screw B** (Fig. 9) to create just enough friction to hold the spotlight head in the upper position as shown in Fig. 8.
- Check the distance (Fig. 10) between the end of intermediate tube (K) and the end of outer tube (I) and it should be at least 1". If it is less than 1", it means that the outer tube is not fully seated inside the head housing. The flat on the wedge (Fig. 8) cannot engage with the flat (H) milled on the intermediate tube (K) when installing the handle assembly in Step 11b. To correct the problem, loosen **Set Screw B** (Fig. 9) slightly, and push the head housing (Fig. 9) toward the vehicle inside until it is stopped by the outer tube, and then repeat Step 9c.

FIG. 8: INSTALL SPOTLIGHT HEAD AND SHAFT ASSEMBLY





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10. INSTALL INNER TRIM AND COLLAR

- Remove the masking tape that was used to temporarily hold the lead wire in place in **Step 8e**.
- Slide the inner trim (**D**) (**Fig. 10**) onto the spotlight shaft and orientate it to fit its bottom onto the garnish trim (**C**) properly.
- Slide the collar (**E**) (**Fig. 10**) onto the spotlight shaft, push it tightly against the inner trim, and tighten the set screw (**M**).

11. INSTALL SPOTLIGHT HANDLE ASSEMBLY

- Gently slide the handle assembly onto the spotlight shaft, at the same time, turn the handle grip (**Fig. 11**) to engage the gear key (**Fig. 11**) with the rod slot (**G**) (**Fig. 10**), and rotate the whole handle assembly to engage the handle housing key (**Fig. 11**) with the outer tube notch (**L**) (**Fig. 10**) and to bring and hold the handle grip to the position where the grip axis is approximately perpendicular to the flat (**H**) milled on the intermediate tube (**K**) (**Fig. 10**).
- Apply pressure to the handle assembly to engage the switch contact (**Fig. 11**) with the rod contact (**F**) (**Fig. 10**) and to fully seat the handle assembly onto the shaft. Insert the wedge (**Fig. 8**) into the wedge hole in the handle housing (**Fig. 11**) and wiggle the handle assembly to engage the flat on the wedge with the flat on the intermediate tube. Insert and tighten the wedge screw (**Fig. 8**) to 40 ± 5 in-lbs of torque.

12. ADJUSTMENT

- Make proper adjustments to **Set Screw B** (**Fig. 9**) which controls the tension for up-down swing (**Fig. 8**) of the spotlight head, and to **Set Screw A** which controls the tension for 360° rotation (**Fig. 8**) of the spotlight head, so that they create just enough tension to hold the position of the spotlight head in wind. Over-tightening may cause difficulties to aim the spotlight as well as premature wear-and-tear of the spotlight components.

13. TEST

- To complete the installation, testing both mechanical and electrical functions is required.
- The mechanical functions include the 360° head rotation in both directions and a check of clearance from the door swing and windshield.
- The electrical functions are on/off control and maintaining electrical continuity throughout the mechanical operation.

14. MAINTENANCE

- An occasional coat of automotive wax on the exposed parts of the spotlight will keep it looking like new.

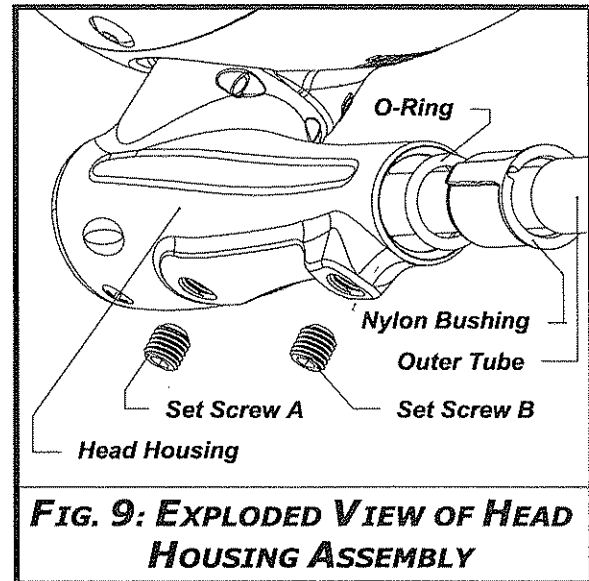


FIG. 9: EXPLODED VIEW OF HEAD HOUSING ASSEMBLY

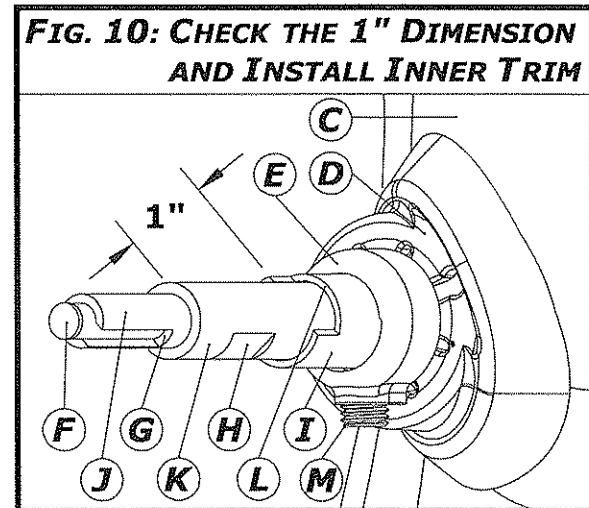


FIG. 10: CHECK THE 1" DIMENSION AND INSTALL INNER TRIM

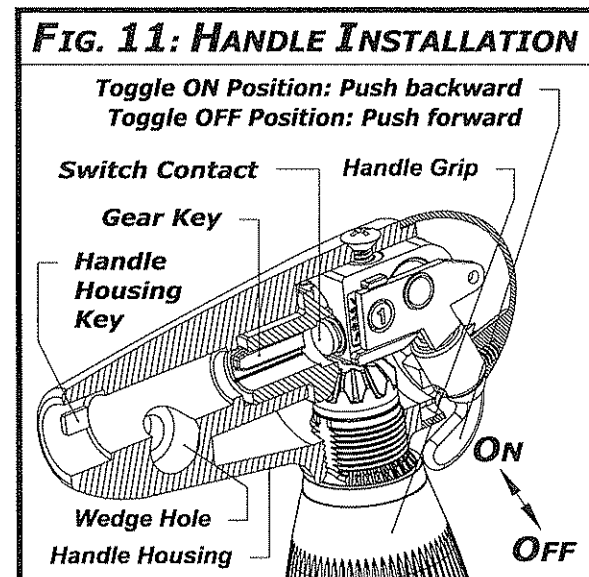


FIG. 11: HANDLE INSTALLATION