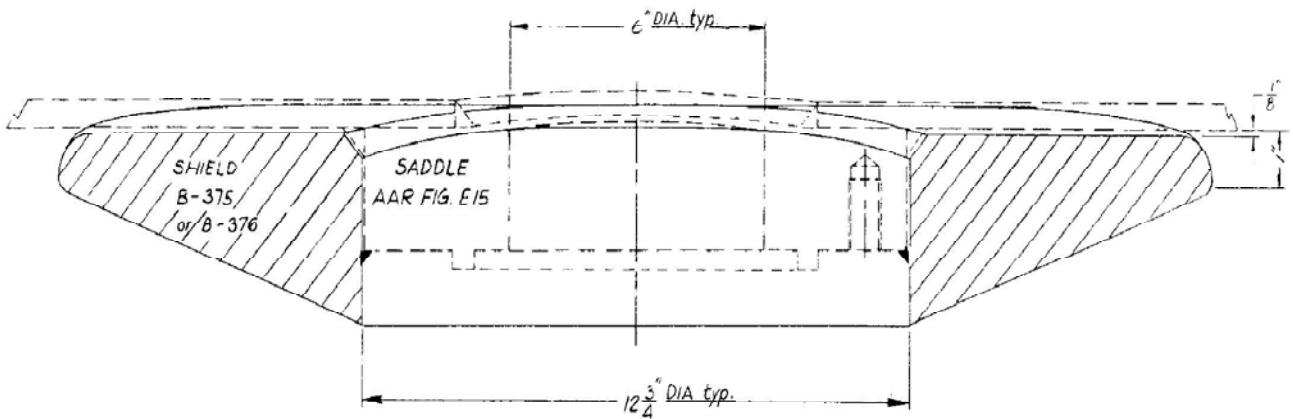




Bottom Outlet Shield B-375 and B-376

Installation and Operation



Read the following in its entirety before proceeding.

1. The shield has been machined to fit around a universal bottom outlet saddle or similar discontinuity. Midland has been given a completed form, 376-35, with the dimensional information needed to provide a machined shield. Since this dimensional information may have come from a car builder's drawing, it is important to verify that the actual construction dimensions will provide the correct fits.

2. An installation tool kit is available from Midland. If this kit is not present, get four 1/8" shims, to be used as spacers to position the shield for welding. For shims, pieces of 1/8" diameter rod can be used with a hook bent at one end to make shim removal easier after welding the shield. Also required are two 3/4-10 threaded rods about 7" long, two 3/4-10 nuts, and a draw bar about 14" long with two 7/8" diameter holes on 10-5/8" centers.

3. Install the threaded rods in the saddle holes 180 degrees apart. With the draw bar and nuts in readiness, lift the shield, install draw bar and nuts. Draw the shield up around the flange, being sure to leave 1/8" between the top of the shield and the underside of the tank. Using two shims about 8" apart on each end of the shield, snug up the shield so all four shims are lightly clamped. It has been found that the tank plates can deflect when loaded, or when the car is impacted, so this spacing will prevent the tank plates from contacting the shield.

4. Preheat the shield to 70 degrees Fahrenheit minimum.

5. Follow your company's standard for selecting the type of weld rod. If no standard is available, several firms have successfully used E7018 or 7018.

6. Using 1/2" back welds at the start and the end of welds, apply a 1/4" fillet weld about

3-1/2" long on the shield ID to join the shield to the saddle face. Weld between one pair of bolt holes, then stop. Allow this weld to cool. A two-minute interval in most cases is adequate for the weld to cool below its embrittled temperature range.

7. Make a second weld, the same size as the first, 180 degrees across from the first weld. Let this weld cool.

8. Inspect both welds to see that no cracks have developed. Remove the draw bar and threaded rods.

9. Proceed to skip weld two more welds 90 degrees from the first two welds, and let the welds cool as above, until four welds have been made. Then complete the final four welds, making a total of eight welds. Inspect the welds for cracks. A dye penetrant examination may be helpful to insure a defect-free weld.

10. If a crack is observed, gouge out the crack and weld again.

11. Remove the 1/8" shims. Slight prying may be required to free the shims.

12. Using a silicone sealer, caulk the perimeter of the shield to seal the gap between the shield and tank shell. This prevents water accumulation between the shield and tank shell.

13. Periodically, when the car is available and the bottom outlet valve is removed, the welds should be inspected to verify that they are still in satisfactory condition.

NOTICES AND WARRANTY

Midland shields are used in a variety of products, many of which are hazardous materials. The acceptance and transportation of the products are regulated by the DOT and AAR in the U.S.A., and in Canada by the CTC and Transport Canada, as well as other governmental bodies, particularly when used in stationary applications. All personnel should be familiar with and follow these regulations. Nothing in this pamphlet is intended to conflict with or supersede these regulations.

Obtaining Product Drawings

Assembly drawings of Midland shields are available at no charge, and will be mailed upon request. Address any questions concerning valve maintenance or usage to the Engineering Dept., Midland Manufacturing Corp.

The information contained herein is thought to be reliable. It was gathered from knowledgeable sources, but Midland Manufacturing Corp. makes no representations or guarantees about its accuracy or completeness and assumes no liability for this information.

Warranty

Midland warrants the products of its own manufacture to be free of defects in material and workmanship, for a period of 1 year from the date of invoice. Furnished materials and accessories purchased from other manufacturers are warranted only by and to the extent of those manufacturers' warranties, if any.

MIDLAND MAKES NO WARRANTY OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, OTHER THAN AS SPECIFICALLY STATED HERE MIDLAND MAKES NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR USE. Midland's obligation under this warranty is strictly limited, at its option, to 1) repair or replacement at its factory of a like quantity of product: 2) refunding to

purchaser money paid to Midland for its product: or 3) issuance of written authorization for the Purchaser to repair or replace, at costs comparable to Midland's normal manufacturing costs those parts proven defective, provided that Purchaser has given to Midland immediate notice upon discovery of such defect Merchandise claimed to be defective shall not be returned without first obtaining Midland's written consent. The undertaking of repair or replacement by the Purchaser, or its agents, without Midland's written consent, shall void Midland's warranty and relieve Midland of all responsibility. Under no circumstances shall Midland be liable for any direct, incidental, consequential or other damages of any kind in connection with the installation, operation, maintenance, repair, inspection or other use of any product purchased from it.



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